PROGRESSIVE ARCHITECTURE

10 october 1956

world's largest architectural circulation

p/a churches and temples

Lower photo shows 500-ton concrete roof for main auditorium (upper center) of Temple Isaiah, Los Angeles, Calif. Archt.—Kenneth N. Lind, A.I.A.; Struc. Engr.—Brandow & Johnston; Contr.—Zimmer Construction Co.; Sub. Contr.—Vagtborg Construction Co.; Pozzolith Ready-Mixed Concrete supplied by Consolidated Rock Products Co.—all of Los Angeles, Calif.

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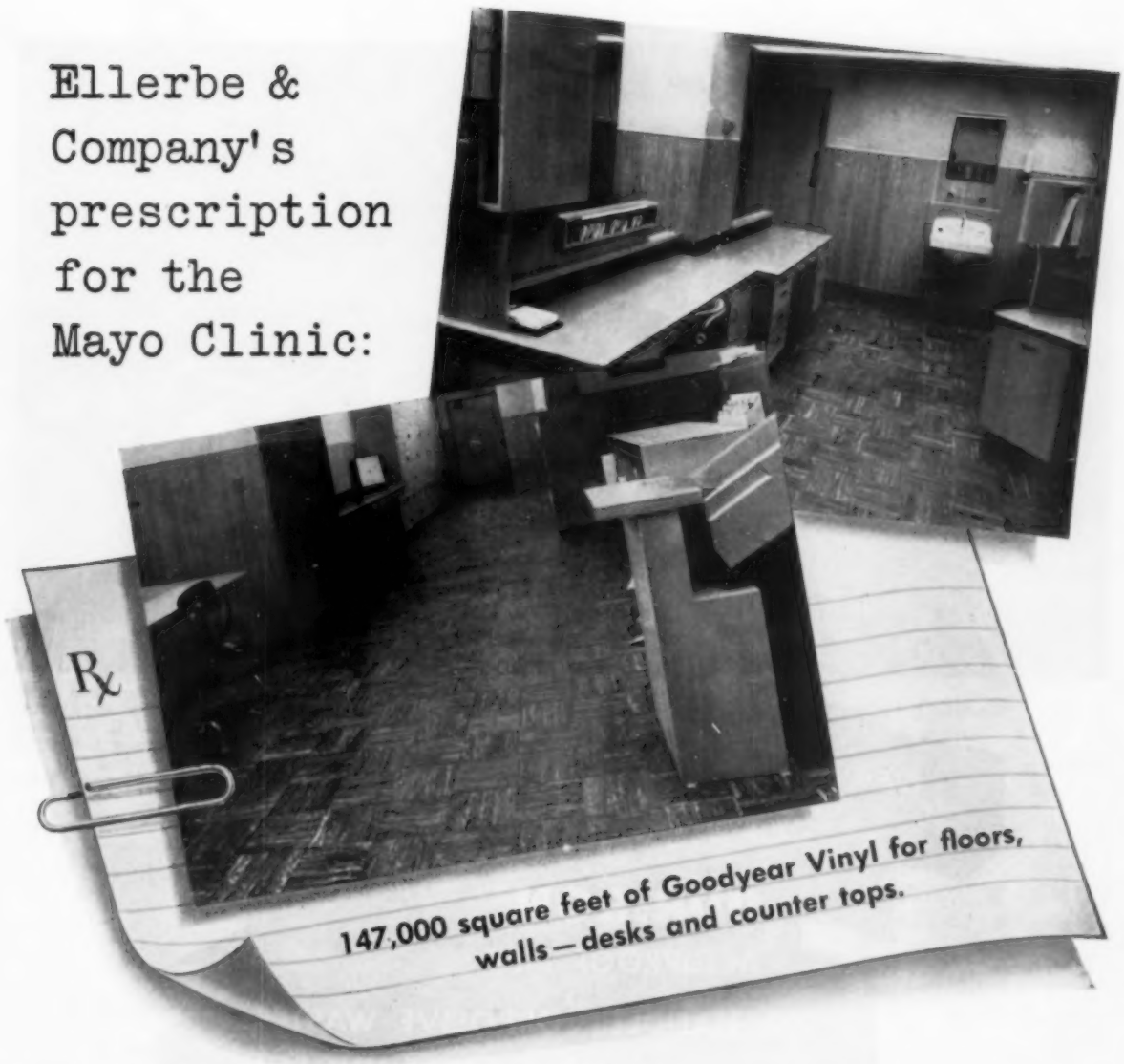

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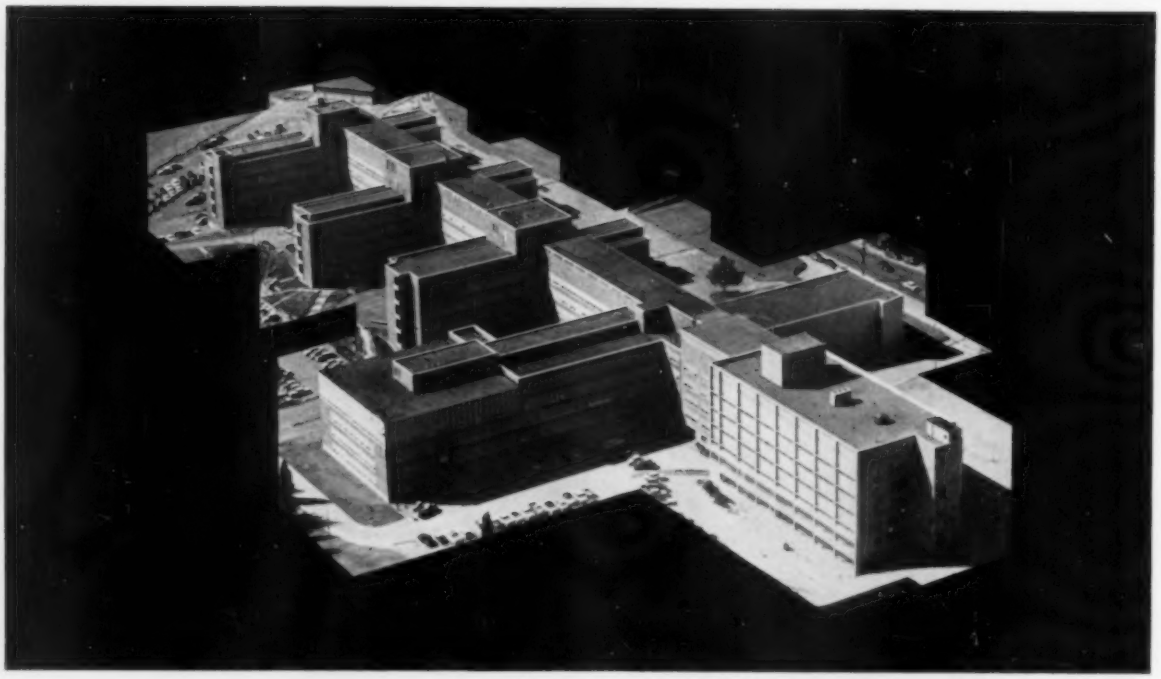

Architects: Narramore, Bain, Brady, and Johanson; McClelland and Jones
Professional Engineers: Bouillon and Griffith
General Contractor: J. C. Boespflug
Mechanical Contractors: University Plumbing & Heating (Health Science Building) W. E. Beggs
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OCTOBER 1956

PROGRESSIVE ARCHITECTURE

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It's the Law *by Bernard Tomson*

P/A Office Practice ***Article continuing a discussion of the revision and up-dating of the Standard AIA Contract Forms.***

The unrevised AIA form provides that the Architect is to be "equitably paid" for extra drafting or other expense "due to changes ordered by the Owner, or due to the delinquency or insolvency of the Owner or Contractor, or as a result of damage by fire." No formula for payment is included. The revised form provides:

"Extra expense is caused for the Architect if the Client orders revisions in drawings previously approved, if construction work is awarded on other than a single lump-sum basis, if construction contract time is extended by more than 25%, or if other extra services are required. Payment therefor shall be as provided in Article VI."

"VI. PAYMENTS TO THE ARCHITECT

B. Payments for Extra Services of the Architect—Payment for work included under Article II shall be made monthly in addition to the basic fee as follows:

"1. ——% of the cost of work let separately from the general contract or on a cost-plus basis.

"2. ——times the Direct Personnel Expense incurred by the Architect in rendering other extra services."

Although the above quoted clause could be more broadly formulated to protect the Architect's right to compensation for extra services, the establishment of an express formula (a multiple of direct personnel expense) for calculating the Architect's compensation is a marked improvement in the form.

Under the revised form the Architect's services are divided into four phases: "schematic design," "basic design," "construction document," and "construction phase." The Committee points out that a large proportion of the AIA membership thought that the statement of services in the form contract was inadequate. However, revision has not only detailed the Architect's services, but also has increased his obligations. For example, in respect to the cost of the work, the Architect is required under the schematic design phase to acquaint the Client with the probable cost of the work. Under the basic design phase, he is required to acquaint the Client "with any indicated adjustment in the probable cost of the work" and when authorized to "obtain a semidetailed estimate of the cost of the work." Under the construction document phase of the services, the Architect is required to "advise the Client of any indicated adjustment in previous estimates of cost due to known market fluctuations or changes in scope or requirements, and, when Client so authorizes, obtain a detailed estimate of cost of the work."

The revised form further provides:

"Estimates of probable Cost of the Work made by the Architect will be square and cubic foot or other computations at current costs based on what the Architect believes are similar projects in the area.

"Preliminary estimates shall be in semidetailed form computed on complete wall, floor, or other units of work in place.

"Detailed estimates shall be detailed take-offs of the material, labor, and equipment rental, and with current costs applied thereto, to which factors for overhead and profit shall be added."

Even though the form provides that the Architect does not guarantee his estimate of cost, the placing of this responsibility upon the Architect can be dangerous. Loss of compensation or a legal suit for damages, or both, may be the consequence of an Architect's misjudging the cost of a proposed structure (IT'S THE LAW, *February 1949 P/A*). The revised form although increasing the Architect's responsibilities in respect to estimating of cost, does not adequately protect the Architect from possible litigious clients.

The theory of the AIA Committee in comprehensively detailing the Architect's services, was stated by it as follows:

"A definite statement of services should protect the legitimate Architect from the marginal operator and service cutter. The detailed statement is much better public relationwise."

It is questionable whether the inclusion of a comprehensive and detailed list of the Architect's services in a form contract is desirable. The services to be rendered vary with the project and there is no reason why a form contract cannot be used in which the Architect's services can be especially expressed in a blank space provided for that purpose. In this way, rigidity in respect to the Architect's services can be avoided.

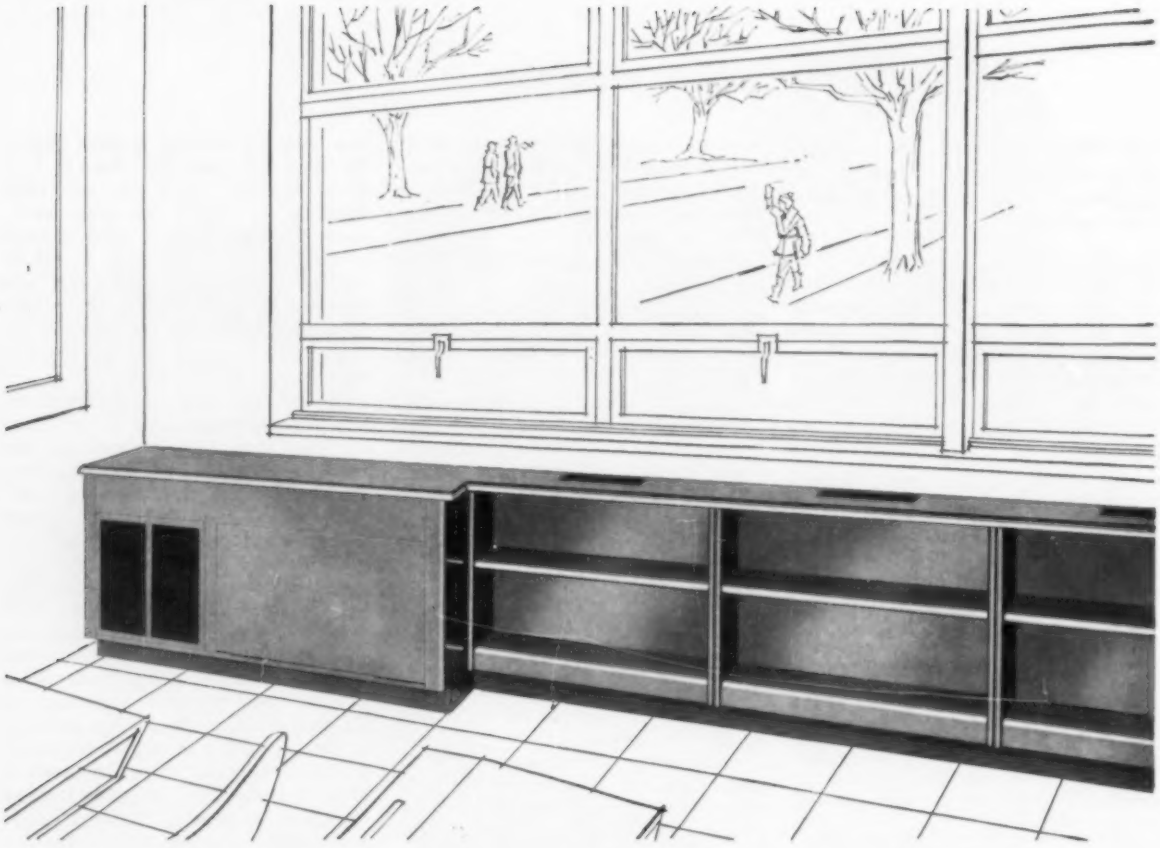
The suggested changes in the provisions of the Architect-Owner agreement relating to reimbursements to the Architect specifies in greater detail than the original the items which are to be reimbursed. Both the old clause and the revision provide that the Architect is to be reimbursed the cost of special consultants when authorized to retain the same by the Client. However, if an Owner fails to pay the fee of the special consultant because of dissatisfaction with his services or other reason, the Architect may find himself as a party defendant in a law suit instituted by the special consultant to recover his fee. A form contract could provide that the Architect, in retaining the special consultants, only acts as agent for the Owner and that any expenses or damages incurred in defending the Owner's interests shall be compensated by the Owner.

The revised form states that in the event of abandonment or suspension of the work "the Architect shall be paid the earned portion of the fee, reimbursements then due, and reasonable terminable expenses." It is often difficult to determine the appropriate compensation for an Architect when the abandonment or suspension occurs during the preliminary stage of the work. It is generally during this stage that the principal has spent substantial time on the project. It may be desirable to provide that, if the abandonment of the project occurs during the preliminary stage, the fee to be paid the Architect shall be based upon a multiple of direct personnel cost including the cost for the time spent by the Architect or any partner at a rate fixed in the contract (IT'S THE LAW, *February 1951 P/A*).

The responsibilities of the Client are set forth in the revised form. However, there is no provision to the effect that the Owner will bear the costs of any audit of the Contractor's books and records. Such an audit may be of great assistance to the Architect in supervising both the project and the Contractor (IT'S THE LAW, *September, October, and November 1953 P/A*). The cost of such an audit should be clearly stated as one of the Owner's responsibilities.

The revised form provides for arbitration of any dispute under the standard procedure of the American Institute of Architects "and the laws of the state in which the project is located." This clause does not improve the defects contained in the unrevised form contract (IT'S THE LAW, *March 1949, May 1956, and June 1956 P/A*). Further, by providing that the laws of the state in which the project is located shall govern, arbitration will be defeated if the project is located in a state which does not accept or enforce arbitration.

Next month's column will include clauses, other than AIA form clauses, often used in a contract between Owner and Architect.



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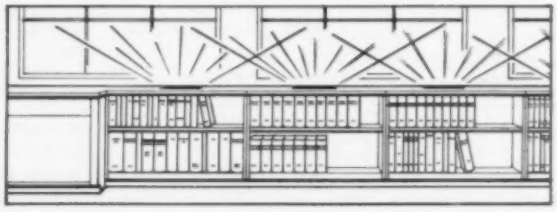

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Mechanical Engineering Critique *by William J. McGuinness*

P/A Office Practice *column on mechanical and electrical design in architecture is devoted this month to the subject, "Wasting Hospital Money."*

A popular subject in family magazines is "Can you afford to be sick?" Medical fees and the efficiency of medical personnel are discussed. Hospital fees are frequently considered but the technical aspects of hospital maintenance costs are seldom mentioned. They are for the professional—the architect and the engineer. Our modern economy tends to transfer every possible burden to efficient equipment in order to free the time of staff members. In hospitals the relation of mechanical equipment cost to that of total structure is greater than in any other building type. Any reduction of initial cost is important. Far more vital, however, is a high level of operating efficiency which reduces fuel cost and the payroll for maintenance staff.

Leaders in the design of mechanical facilities for hospitals are Charles F. Neergaard, Hospital Consultant,* and Charles E. Daniel, Consulting Engineer. Recently these gentlemen were called away from a busy schedule to do a bit of trouble shooting for a Midwestern hospital that had been struggling for more than a year with an expensive and highly inefficient heating plant and with other mechanical difficulties. Their findings were quite startling and were the basis for a comprehensive article for hospital planners in last month's issue (September) of *Modern Hospital*.

In this 250-bed hospital and 160-unit nurses home, expansion of 100 percent was contemplated in future. Neergaard and Daniel found serious errors in design:

1. Thermally poor building materials.
2. Much too large a boiler installation.
3. Excessive radiation.
4. Unsuitable controls.
5. Excess heat in rooms above boiler.
6. Fluctuating Water Pressure.
7. Shortage of hot water in laundry.

They recommended some corrective measures which were taken. They appraised the excess first cost which, together with the cost of correction, represented the total capital extravagance. They compared the operating cost of the original faulty plant to that of an efficient one.

Exterior walls were 4-in. brick and 8-in. concrete block with plaster directly on the block. This is a bad wall for both leakage and condensation. It has a U-factor of .33 Btu/hr; Neergaard recommends .09. Double glazing would have been preferred to the single glass which was used—U-factor, single glass 1.13, double glazing 0.55. Heat loss through walls would have been reduced to about ¼ and through glass to about ½ of the loss through the poorer construction.

Two 500-hp steam boilers served the complex, with provision for a third. With 1000 hp available, it was found that under full load at critical conditions 300 hp would be sufficient, only 60 percent of the capacity of one boiler. During much of the year, under average conditions, 12 percent of the output of one boiler would suffice. Triple fuel consumption and deterioration of refractory lining due to intermittent firing resulted. Correction—a 150-hp package-type boiler was installed to carry the load during spring, fall, and summer. A new electric sterilizer stood by for use when no steam was on during part of the summer. In winter, one of the original boilers cuts in when required.

The radiation, excessive in many places, was 100 percent too much near the boiler room. If materials with the better U-factors had been used, 18,000 sq ft of radiation could have replaced the 33,000 which were installed.

Large radiators, served by a large boiler, were kept in check by thermostats in each room. Boiler controls were operative over a range of 20 to 100 percent of the 500 hp. Because the boiler operated far below the lower of these limits it was necessary to have an engineer on duty 24 hours a day to start and stop the burner by hand. This meant five full-time firemen on the payroll. Neergaard does not favor individual room controls and would have installed originally a hot-water circulating system, properly zoned. The boiler control problem was solved when the package unit was installed.

High temperature in and adjacent to the boiler room was caused by lack of ventilation in that room. A tiny area-vent was supplemented by a 4500-cfm high-speed fan with exhaust through the area and the oversize chimney.

Water pressure, 60 psi at the main, dropped to eight in the laundry and varied from 30 to 60 in the hospital. Cause—a water softener of inadequate size. The very low laundry pressure resulted from the additional fact that a low-capacity instantaneous heater further reduced the pressure. Solution—the laundry hot-water supply was changed to draw on reserve tanks in the hospital plus a surge tank (reserve) for large, short-term demand. This reduction in peak demand facilitated the correct operation of the water softener.

Total cost of hospital plus nurses home was $4,325,000; excessive cost of original equipment $175,000, cost of corrective measures $32,000, total money wasted $207,000 or five percent of the total building cost.

In 1955 the fuel cost was $27,000 with oil at eight cents per gal. In cold Prince Edward Island, a 210-bed hospital complex, thoroughly insulated and with 260-hp boilers spent, in 1955, $13,059 for fuel at 10.36¢ per gal. At eight cents, the cost would have been $10,000, about ⅛ of the expense to the hospital under study.

A hospital board depends on its architect and engineer to produce a mechanical plant of good quality but at the lowest possible cost. Operating costs must be subject to the same economy. It should not be forgotten that these costs are borne largely by patients who are ill and sometimes in distress. Wall insulation and double-glazing generally used in modern residences are still not standard for hospitals. It is difficult to understand why, as their use can cut the yearly fuel bill in half. It is quite usual to measure the cost of wall insulation and double-glazing against annual fuel savings to estabish a period of several years over which the capital investment can be amortized. Often they can be paid for by the saving in the original cost of the plant!

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ABOUT THE AUTHOR

Mr. Schwartz, a well-known figure on the lecture platform before professional societies and in technological institutes, has a rare gift for presenting his material in an interesting way that makes it easily grasped—and remembered. He is the author of "Simplified Physics of Vapor and Thermal Insulation," hundreds of thousands of copies of which have been used throughout the years by the building industry, and as a text by scores of universities, colleges, schools of architecture and engineering.

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EXHIBITION SITE PLAN

Australian Architects Build Exhibit for Public

1

Entrance Canopy (1), *gateway to the exhibition, led visitors under an aluminum-foil canopy, past porcelain-enameled steel panels used as letter posters.*

South Australian Government Pavilion (2) *was prefabricated, using floor and roof units designed for portable school classrooms. Within this inexpensive, salvagable space there was a photographic display of Government hospitals, schools, and public buildings.*

2

3

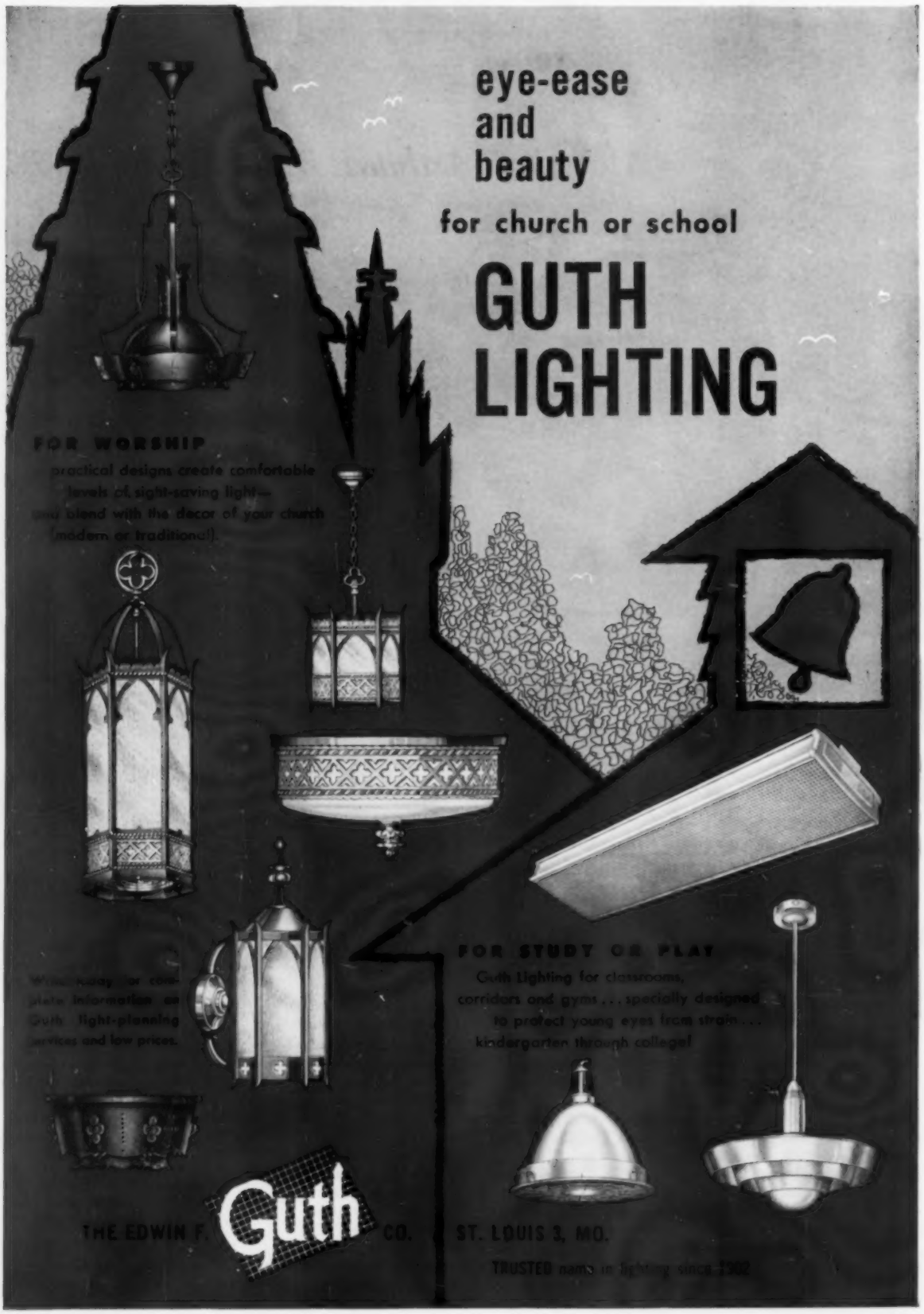
4

Trades Pavilion (3) *was built of triangular three-hinged steel frames formed of open-web steel joists. Roofing was alternate sheets of transparent plastic and asbestos-cement boards. Since most materials used were salvaged, almost only cost was labor. Inside, 18 equal bays were used by various manufacturers, and rent from these exhibit spaces was major source of income for running expenses of the Exhibition.*

International Pavilion (4) *was built of wood and canvas, in shape of star hung from central timber mast. This building, the focal point of the Exhibition, contained photographic displays of architecture from other parts of the world. Wire sculpture in foreground, one of many such groups, was by Wladyslaw Dutkiewicz.*

Architectural conventions in the United States, from the annual national convention of the AIA to regional, state, and even more local meetings, increasingly reach for public attention through press coverage—and each year draw larger and better planned exhibits of building materials and products. This year in Adelaide, South Australia, the national architectural society (Royal Australian Institute of Architects) combined these activities in an unique and apparently very successful manner. The Sixth Australian Architectural Convention, as it was called, featured an Architectural Exhibition open to the public, arranged in a group of specially designed buildings pleasantly planned in Adelaide's Botanic Park.

More than 100,000 persons visited the Exhibition (there was no admittance charge) and wandered through not only the general exhibit spaces—a Trades Pavilion, a Government Pavilion, and an International Pavilion—but also a group of buildings designed and erected to demonstrate structural and visual possibilities of specific basic materials. For example, the Glass Pavilion—essentially a glass cube with a minimum of other structural materials—housed special exhibits showing the versatility of glass in building. Similarly, a Timber House and Pavilions—devoted to and built primarily of concrete, steel, and plastic—were part of the exhibition group. One large manufacturer of wallboard and flooring prod-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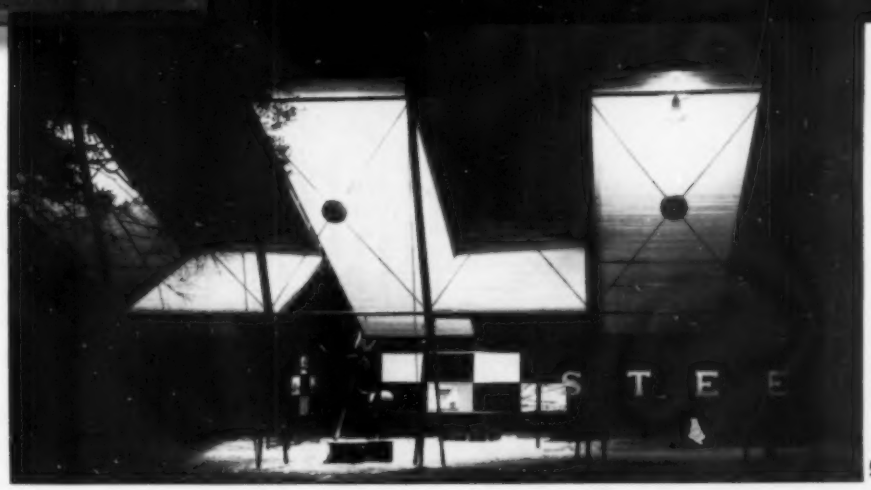

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7

8

Steel Pavilion (5) *consisted of six prefabricated frames supporting panels of steel decking, with cables designed to take tension forces. A "plastic theory" design technique allowed light members and produced an exciting structure, strong but visually light. On-site erection took only three days. Steel sculpture is by S. Ostoja-Kotkowski.*

Glass Pavilion (6) *was designed as transparent cube, with one wall almost entirely of 3-ft-wide glass louvre panels. Standard aluminum glazing sections were used; roof was corrugated sheeting made of a new Australian glass-fiber material.*

Timber House (7) *was spanned by laminated arches of Austrialian oak. Prefabricated wall panels were sheathed with different local woods inside and out; other woods were used for various purposes—even to timber bath and toilet fixture! House plan was kept simple and flexible.*

Concrete Pavilion (8) *was devised as six bays, each 18 ft sq. In each bay prestressed periphery beams carry a 3 ft-module grid of post-stressed beams, the bay being tied by stressing of tensile wires passing through the grid members, and being raised as a unit. Roof was of precast panels, display walls were masonry units arranged for color patterns.*

Australian Architects Build Exhibit for Public

ucts—the Colonial Sugar Refineries Company—had its own pavilion.

Along with the buildings went landscaping and site design, and a nice disposition of related sculpture and mural screens. Lighting was carefully planned, both within the buidings and outside where (in addition to floods) beams and spots of light pointed the visitors' route. The structures were designed for temporary use, and materials employed were "recoverable" in almost all instances. The costs of the buildings were met by the exhibitors. Photographs were contributed from many countries; a number of U.S. architects sent exhibits of their work.

Accomplishment of the complicated and necessarily rapid design and construction job was by an Exhibition Committee of ten architects, who called on the services of other colleagues and students in the three areas of design, promotion, and administration. Structural designs of the Concrete, Timber, and Steel Pavilions were by Prof. F. P. Bull, of Adelaide University, a strong proponent of architectural-engineering integration.

Eight months' work preceded the beginning of construction, and actual site work took two months more—including, Committee members' report, four final weeks of "Adelaide's worst weather for more than half a century." Work was voluntary and part-time, except for the services of one of the Committee members during the last three months, when he acted as full-time organizer and site supervisor. Members of this hard-working Committee were Keith Neighbour, Richard L. Roberts, Brian Claridge, John Tulloch, A. Lawrence Brownell, John Morphett, Newell J. Platten, M. Bradbury Harris, Alan N. Godfrey, Ian D. Campbell, and Subcommittees drawn from the Contemporary Architects Group.

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condensation of specification information praised

New P/A editorial feature, SPECIFICATIONS CLINIC *by Harold J. Rosen, begins a regular schedule in this issue, alternating with Ben John Small's* SPEC SMALL TALK. *Both columnists are members of The Construction Specifications Institute, Inc. We take this opportunity to offer readers of our* VIEWS *Section a variety of professional comment on Rosen's initial column of the new series, which appeared in April 1956 P/A.*

Dear Editor: The article, "Masonry Walls: Specifications Clinic," is a fine condensation of the important points in masonry specifications. The proposed series should be of great value to all persons concerned with specifications.

DOUGLAS E. STEINMAN, JR.
Beaumont, Tex.

•

Dear Editor: Just a word to compliment you on the new technical series started in P/A. Articles like the first one will contribute much toward good specifications and consequently good construction. JAMES C. BORT
Schmidt, Garden & Erikson
Chicago, Ill.

•

Dear Editor: "Masonry Walls: Specifications Clinic" by Harold J. Rosen, seems timely and well prepared by one possessing considerable knowledge and experience in technical design and construction of masonry walls.

We most certainly subscribe wholeheartedly to Rosen's comments and suggestions and, where such a specification is carefully adhered to, it would accomplish much toward alleviating future criticism of defective exterior masonry construction from clients.

We express a hope that future articles in this series will be as well prepared and ably presented.

FRANK L. COUCH
Smith, Hinchman & Grylls, Inc.
Detroit, Mich.

Dear Editor: I wish to state that in my opinion, the article on masonry walls which appeared in April P/A, would be of definite benefit to all specification writers, and a continuing of various articles would be of definite benefit to all specification writers, and a continuing of various articles on various sources of information in the construction field would be a distinct advantage.

JOHN J. PYLE
Construction Supervisor
Joseph Hoover, R.A.
Pittsburgh, Pa.

•

Dear Editor: I have read your article on masonry walls which appears in April P/A. This article brought out some very important points and I think similar articles should be continued.

I would like to add one suggestion which might be of value and this is that the requirements in California are for a high strength mortar with a high, very rich, cement proportion. Thus, shrinkage is apt to give trouble. The use of an admix and care in laying in very hot weather would be a help to avoid such shrinkage. VINCENT G. RANEY, President
San Francisco Area Chapter
The Construction
Specifications Institute

•

Dear Editor: The article in April 1956 P/A on masonry walls presents all the common problems encountered in obtaining walls that do not leak. So far, so good!

The real problem, which the architect cannot do much about in spite of good specifications, is the control of craftsmanship in laying up the work.

The architect, generally in large communities, has little voice in the selection of the craftsmen and can only recommend to the contractor the dismissal of incompetent ones. The contractor then has obvious difficulties.

(Continued on page 14)

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-President and Secretary; Alfred E. Fountain, H. Burton Lowe, Merald F. Lue, D. Bradford Wilkin, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 430 Park Avenue, New York 22, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are architects, engineers, specification writers, designers or draftsmen, or employes of architectural and engineering firms, and to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employes—$5.00 for one year, $8.00 for two years, $10.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. Latin America and Philippine Republic—$10.00 for one year, $16.00 for two years, $20.00 for three years. All other foreign subscriptions — $15.00 for one year, $25.00 for two years, $30.00 for three years. Single copy — $1.00; special issues — $2.00 per copy. Printed by Publishers Printing Co., New York, N. Y. Copyright 1956, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Indexed in Art Index, Architectural Index.

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p/a views

(Continued from page 13)

To do the job with the high quality of craftsmanship necessary for tight masonry will, in my opinion, require considerable education among the craftsmen, who (I believe) do not always know the importance of their work and how it affects the owner, architect, and contractor. The architect and contractor should give serious talks, explaining their responsibilities to the owner, and then impress upon the craftsmen, particularly the apprentices, the responsibility they take on in becoming masonry craftsmen.

(Continued on page 216)

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Scandinavian imports

Dear Editor: Thank you for the copy of your excellent magazine which reached me only today: hence the delay in writing to thank you for the magnificent presentation you have given our arts and crafts (INTERIOR DESIGN DATA, *April 1956 P/A*).

There is a great number of firms importing Finnish objects for interior decoration, such as:

Finland House Lighting Corp., 41 E. 50 St., New York 22, N.Y. (lighting fixtures);

Finnware Trading Corp., 225 Fifth Ave., New York, N.Y. (copperware);

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Baldwin Kingrey, Inc., 105 E. Ohio St., Chicago, Ill. (furniture);

Viking Trading Co., 5461 Kales Ave., Oakland 18, Calif. (stainless steel flatware);

Waertsila Corp., 225 Fifth Ave., New York, N.Y. (crystal and china).

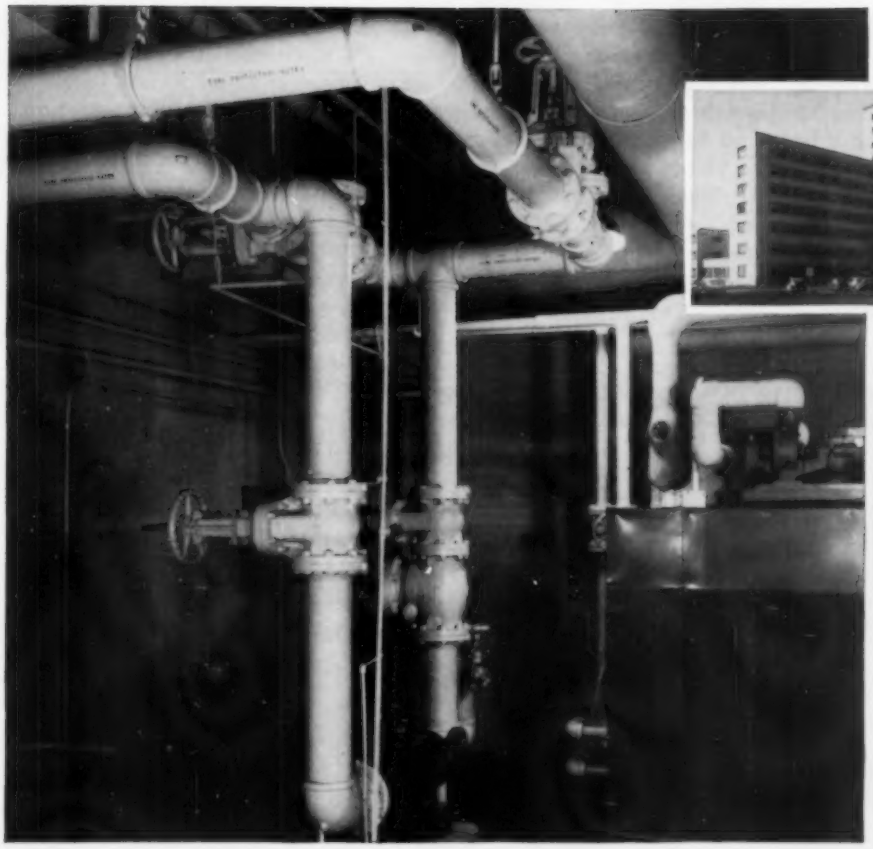
I am very grateful to you for your "Scandinavian Design Cavalcade" article, by Louise Sloane, which, I am sure, will help much in interesting the professional field in the creations of our artists and industry.

H. O. GUMMERUS
Helsingfors, Finland

cause to reflect

Dear Editor: The fine article by Paul Chelazzi in July 1956 P/A is one of the most stimulating and thought-provoking discussions of basic structure that I have had the pleasure of reading. It may well give us all pause to reflect upon the validity and practicality of our somewhat rusty and time-worn methods

(Continued on page 16)



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(Continued from page 14)

of design—for they will surely be increasingly challenged, no less by new materials and products than by the more realistic and efficient engineering approach which should be expected in this age of rapid technological development.

This is a challenge not only to our methods of construction, but also to the contemporary linear style which professes to make modern use of modern materials. This challenge serves to remind us again that we architects cannot turn our backs upon honest structural design.

I should like to voice a protest at the implication that the "Suspen-arch" design of Figure 11 is a unique design which is capable of carrying twice the load of the conventional tied arch in Figure 10. The chord stresses at the center of either type are simply the familiar PL/8, divided by the center depth. Thus, for a given total depth of structure, the conventional tied arch would carry the same load at the same chord stresses as the structure in Figure 11, which was simply drawn twice as "fat" in the article; and the tied arch would require less length of supports for a given headroom. However, I appreciate the principle which Chelazzi wishes to illustrate, and its most interesting application in the later examples. He is to be highly commended.

KENNETH D. STORMENT
Spokane, Wash.

•

Dear Editor: Thank you for forwarding Storment's views on my article—his comments are much appreciated.

In regard to the practical design value of the structure shown in Figure 11, Storment would be entirely justified if the caption did not include the word "hypothetical." Admittedly it looks twice as fat geometrically in comparison with the tied arch, but a closer inspection reveals that structurally it is only slightly overweight. This is due to a moderately larger section required for the curved tie rod, particularly for flat-shaped systems which are generally the case in actual practice.

Storment is correct in his evaluation of the chord stresses which in the tie rod occur in two members, one of which (the tie rod) is passively balancing the H_a of the rib without carrying any load. When curved and carrying the additional load, it still produces the same H_a for balancing the H_a of the arch rib.

Possibly some actual design applications will prove more convincing.

PAUL CHELAZZI
Perugia, Italy

•

Dear Editor: Paul Chelazzi's article "Structures in Membrane on Co-Acting Ribs" (*July 1956 P/A*) is definitely of great interest for progress in architectural design. Many architects will agree with his state-

(Continued on page 22)

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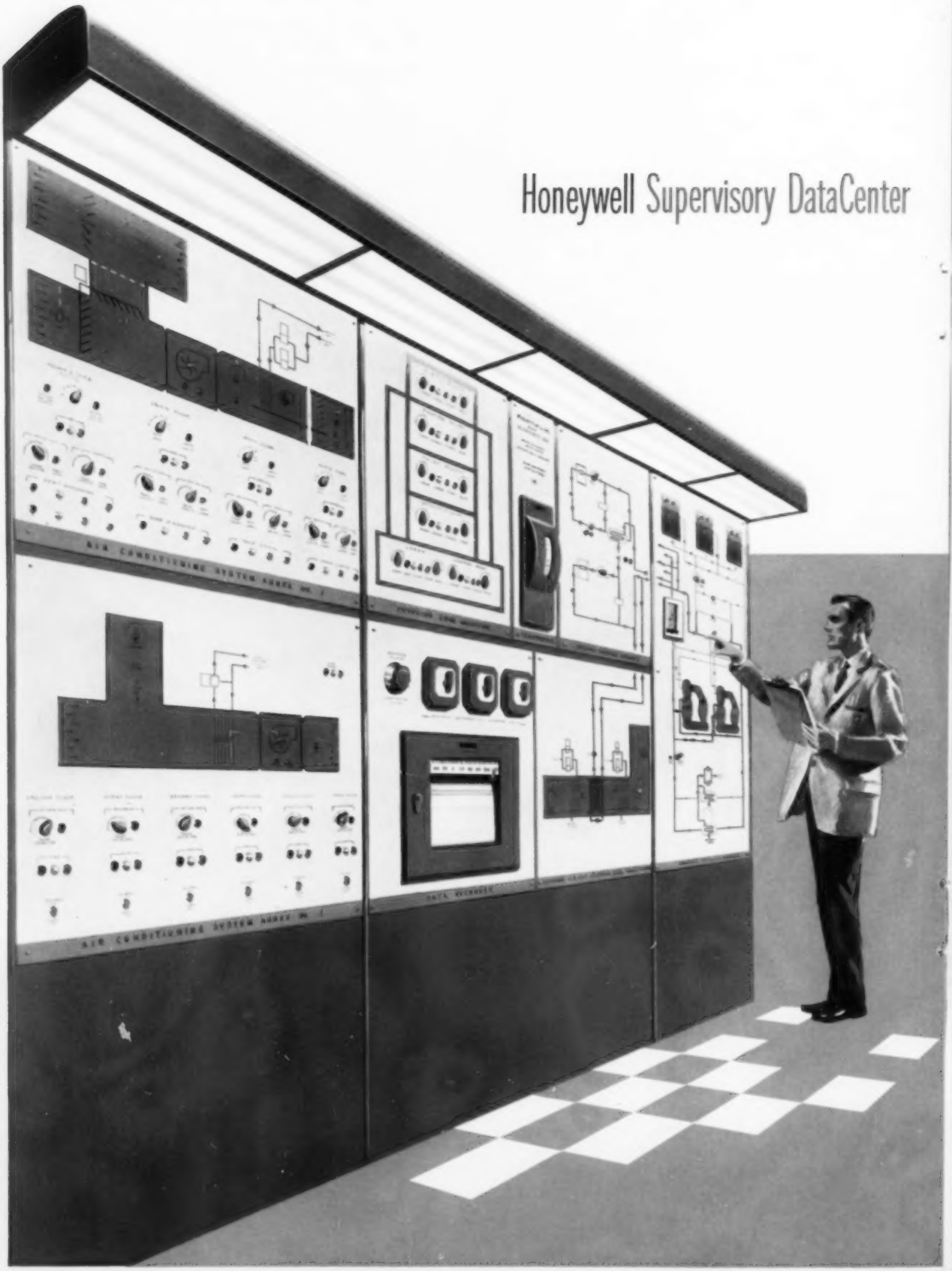
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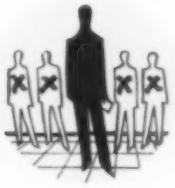

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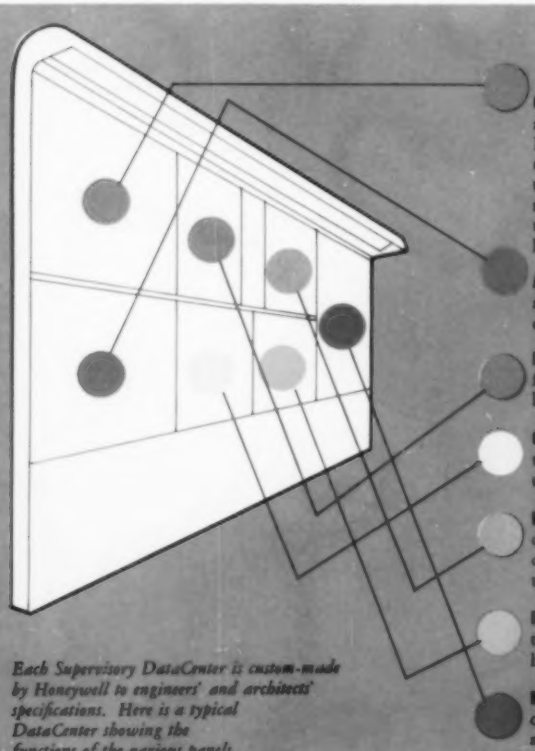

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Basic Refrigeration Plant Supervision. Shown here is color diagram of the system with miniature controller for remote indication and adjustment of chilled water temperature. Accessory equipment can be started and stopped at the panel—pilot lights indicate when they're running. Push buttons provide temperature readings at all key points in this system.

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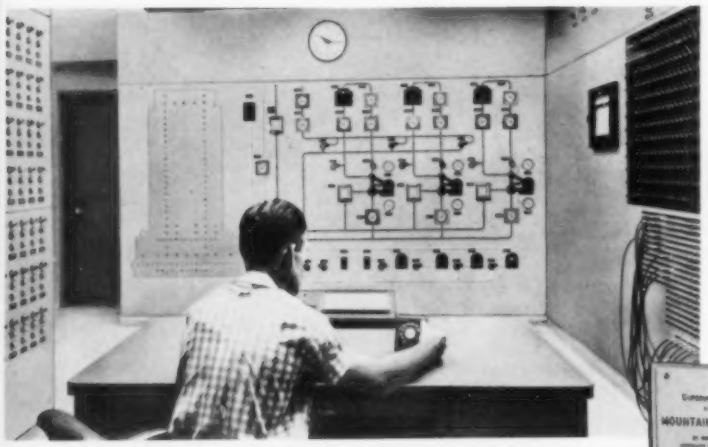
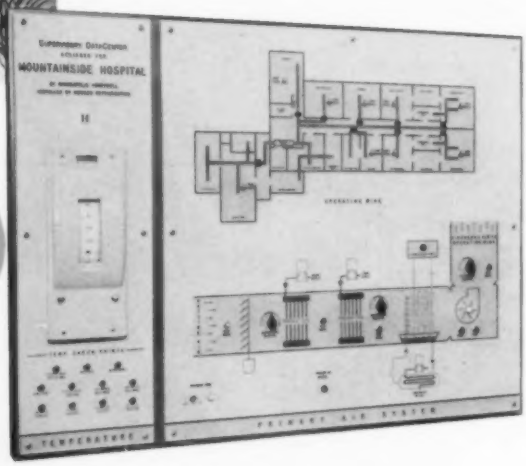
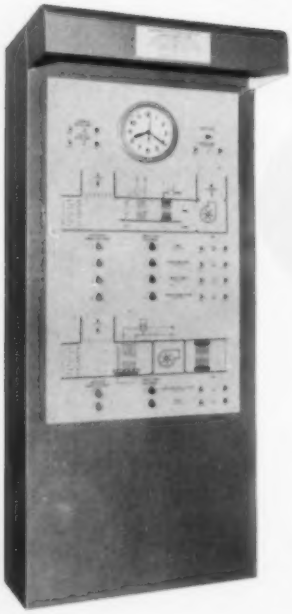


Bank of the Southwest Building, Houston, Texas. Kenneth Franzheim, Architects; H. E. Bovay, Jr., and Reg. F. Taylor, Engineers; Straus-Frank Company, Contractor.

Mountainside Hospital, Montclair, New Jersey. Monsen, Contractor and Engineer





Shreveport Club, Shreveport, La. Neild-Somdal-Associates, Architects; Carl M. Hadra Associates, Engineers; Mechanical Contractors, Inc., Air Conditioning.

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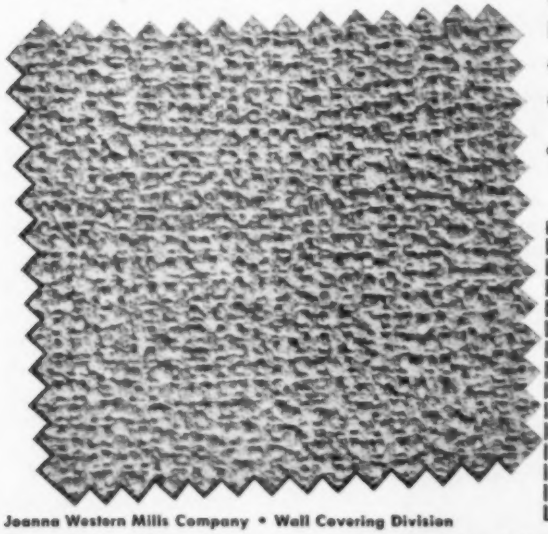

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(Continued from page 16)

ment that architectural expression can only be found in mechanically efficient, constructionally healthy structures. Considering the technical progress of today, involving intricate problems of structural design, especially in more complicated space structures, intimate collaboration of both architect and engineer is necessary—as emphasized by Professor Bruno Zevi in his comment—since nowadays there very few competent architect-engineers. Even exceptional geniuses — like Eduardo Torroja whose professional activity in both fields was very successful, although more important in engineering—have accomplished their most spectacular and revolutionary work with the collaboration of competent architects. We know that one of our leading architects, Frank Lloyd Wright, who graduated in engineering, was assisted in many of his unprecedented creations by experienced engineers.

Also the comment (*page 14, July 1956 P/A*) of Blair Birdsall, Chief Engineer, Bridge Division of John A. Roebling's Sons Corporation, is of great interest. His firm, one of the first and leading structural organizations in the nation, has been interested in Chelazzi's ideas as long ago as 1941 when the writer, at that time Research Associate in Civil Engineering, University of California, Berkeley, was assigned to theoretical and experimental stress analysis of Chelazzi's structural types and made valuable contributions to his research. Even at that time any supposed weakness of Chelazzi's structural principles could easily be encountered and eliminated by proper design.

J. J. POLIVKA
Consulting Engineer and Architect
Berkeley, Calif.

emphasis reconsidered

Dear Editor: In July 1956 P/A (*page 194*) I reviewed *Streamlined Specifications Standards. Vol. 2: Mechanical and Electrical*, by Louis Axelbank and Ben John Small. In that review, I gave the strong impression that Ben John Small was the senior author and that the architectural phases of this subject were of greater importance than the engineering aspects.

Another look at the Publisher's Note and further discussion with the publisher have shown that not only is Louis Axelbank the senior author, but also that he is responsible for the greater part of the technical background and presentation of the work.

From reports, it appears that I have also overplayed the architect's part in this phase of technical planning. I regret that my review took this slant and I am glad of the opportunity to reaffirm the importance of the engineer in the planning of modern buildings.

WILLIAM J. McGUINNESS
Mechanical Engineer
Merrick, N.Y.

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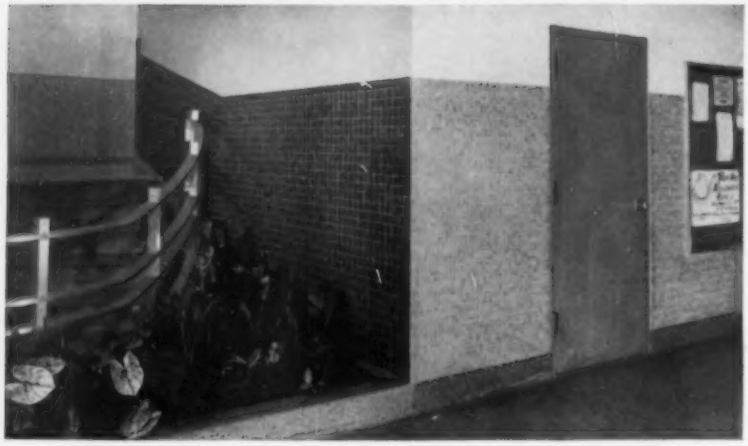

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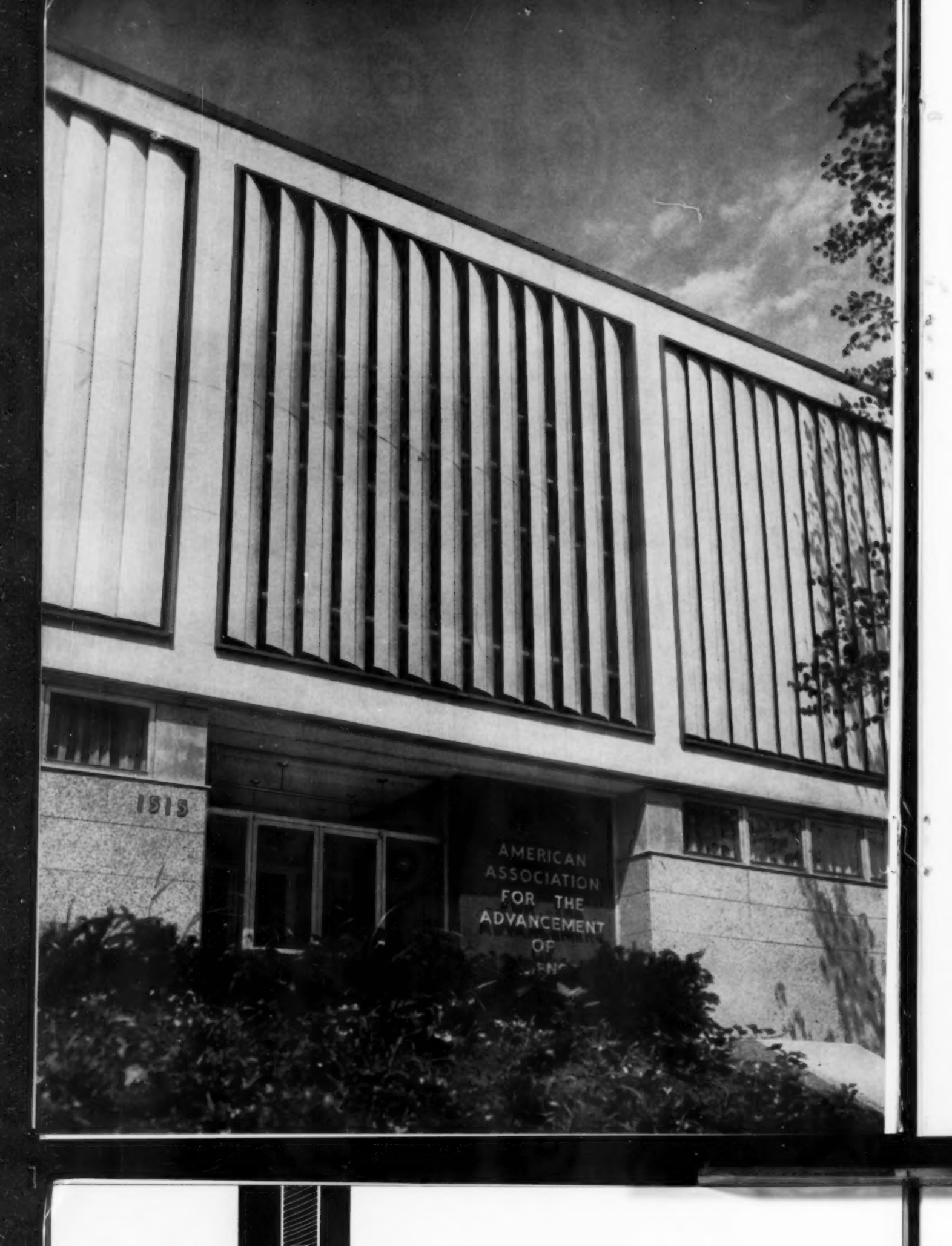
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Washington, D. C.

Louvers electrically operated and clock controlled to follow the movement of the sun are the latest refinement in sun control for monumental buildings. Appropriately enough, this newest technique is applied to the handsome new headquarters for the American Association for the Advancement of Science in Washington, D. C.

The architects selected this sun-control method because Washington is situated in a warm, sunny climate. The positioning of the sunshades was based on a report prepared by Olgyay & Olgyay, of Princeton, N. J., consultants in climatology. Engineering studies indicated that a considerable reduction could be made both in the original cost and the operation of air-conditioning equipment. In addition, employees benefit by increased comfort and improved lighting conditions.

Three sides of the structure employ the aluminum louvers. They are not necessary for the shaded north side.

Alcoa Aluminum was chosen as the material for this louver system because of its light weight, ability to reflect sun's rays, natural resistance to corrosion and weathering, beauty of appearance and minimum maintenance requirements. These advantages resulted in many other applications throughout this recently completed structure.

Architectural consultants on Alcoa's field staff worked closely with the building architects and aluminum fabricators in the preparation of the specifications for alloys and finishes. These services are available to any architect or construction engineer. When you are planning new construction, aluminum might well be the answer to knotty material problems. You can find out easily with no obligation just by phoning your nearest Alcoa sales office. Or write: Aluminum Company of America, 1890-K Alcoa Bldg., Pittsburgh 19, Pa.

THIS LOUVER SYSTEM provides a striking architectural design that enhances the over-all appearance of the building. Other Alcoa Aluminum applications include windows, window surrounds, aluminum entrances, lobby doors, elevator surrounds and railings. All aluminum applications are natural Alumilite® finish, except for the 18″ deep window surrounds, which are Architectural Gray 2020.

ARCHITECT—Faulkner, Kingsbury & Stenhouse, A. I. A., Washington, D. C.

GENERAL CONTRACTOR—William P. Lipscomb Co., Inc., Washington, D. C.

ALUMINUM SUBCONTRACTORS—Universal Corp., Dallas, Texas. Metal glass façades, accessories and solar devices.

A. F. Jorss Iron Works, Inc., Arlington, Va. Miscellaneous architectural metal, including aluminum entrances, lobby doors, elevator surrounds, railings.

Your Guide to the Best in Aluminum Value

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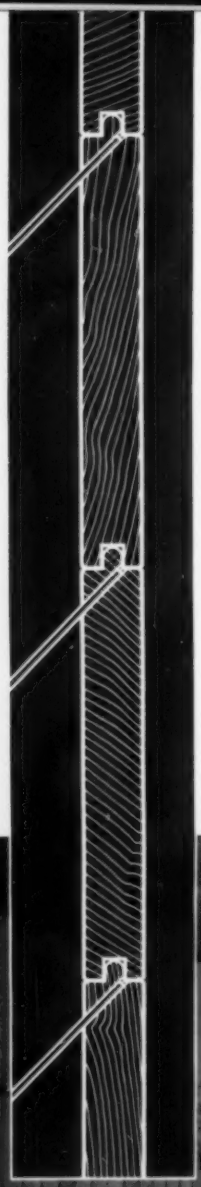

NARROW WIDTHS FIND WIDE FAVOR

Redwood narrow widths, laid vertically, add an illusion of height and present an attractive contrast to the generally low horizontal lines in contemporary architecture. This versatile, beautiful tongue-and-groove pattern lends itself equally well to interior and exterior walls.

Illustrated: Pattern 133EE

Architect: Frederick L. Langhorst, AIA
Photo: Phil Palmer

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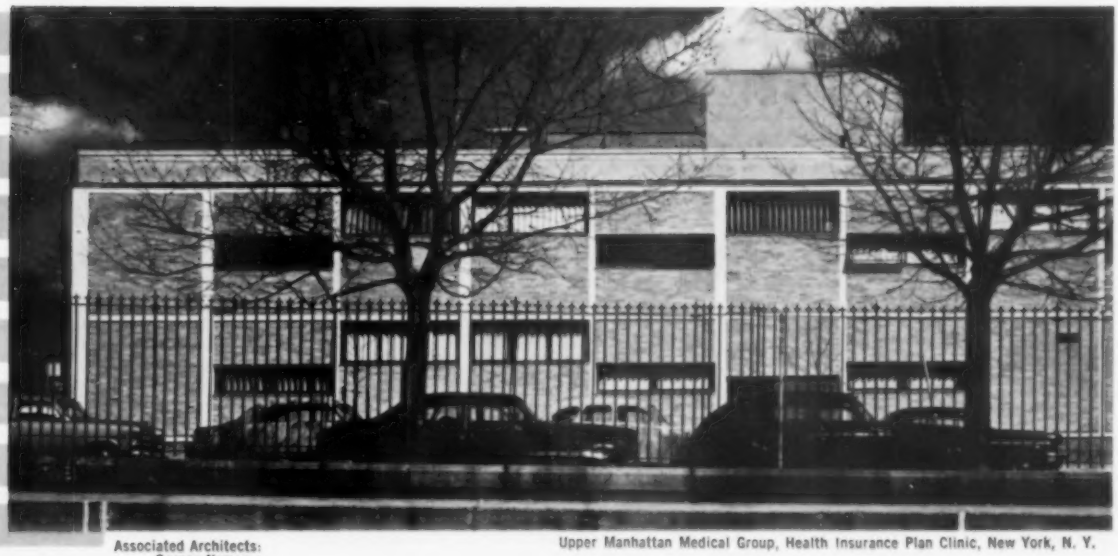
California Redwood Association • 576 Sacramento Street, San Francisco 11

WHEN QUALITY MUST BE THE HIGHEST...

BUT ECONOMY IS IMPORTANT



Upper Manhattan Medical Group, Health Insurance Plan Clinic, New York, N. Y.

Associated Architects:
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Abraham W. Geller,
Basil Yurchenco
General Contractor:
Adson Builders, Inc.
Flooring Contractor:
Sidney Fenster, Inc.

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The Fox brothers, Robert (left) and Richard (center) talk with Richard A. Welter of the Bell Telephone Company of Pennsylvania, in front of the model home on the tract of Plymouth Meeting Park, their very successful new home project.

"Concealed telephone wiring is essential in livable homes"

—say Robert and Richard Fox of Fox-Bilt Homes, Inc., Plymouth Meeting Park, Pa.

"We build homes designed for maximum livability," says Robert Fox. "Concealed telephone wiring is a very important feature of that livability. Customers like the convenience of planned outlets in their homes."

"Also," adds brother Richard Fox, "concealed telephone wiring keeps the beauty of the rooms intact. Customers like that, too. Concealed wiring. telephone as well as electrical, helps us build homes we're proud to offer, and that customers are proud to live in and show to their friends."

Robert and Richard Fox have built many homes in the suburbs of Philadelphia. And their houses sell rapidly in Philadelphia's competitive market. They feature proven products that customers can rely on. Among those products is concealed telephone wiring, which the Fox brothers, along with trend-minded builders across the country, consider a necessary sales feature.

• • •

Your nearest Bell Telephone business office will help with concealed wiring plans. Just ask for "*Architects and Builders Service.*" For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

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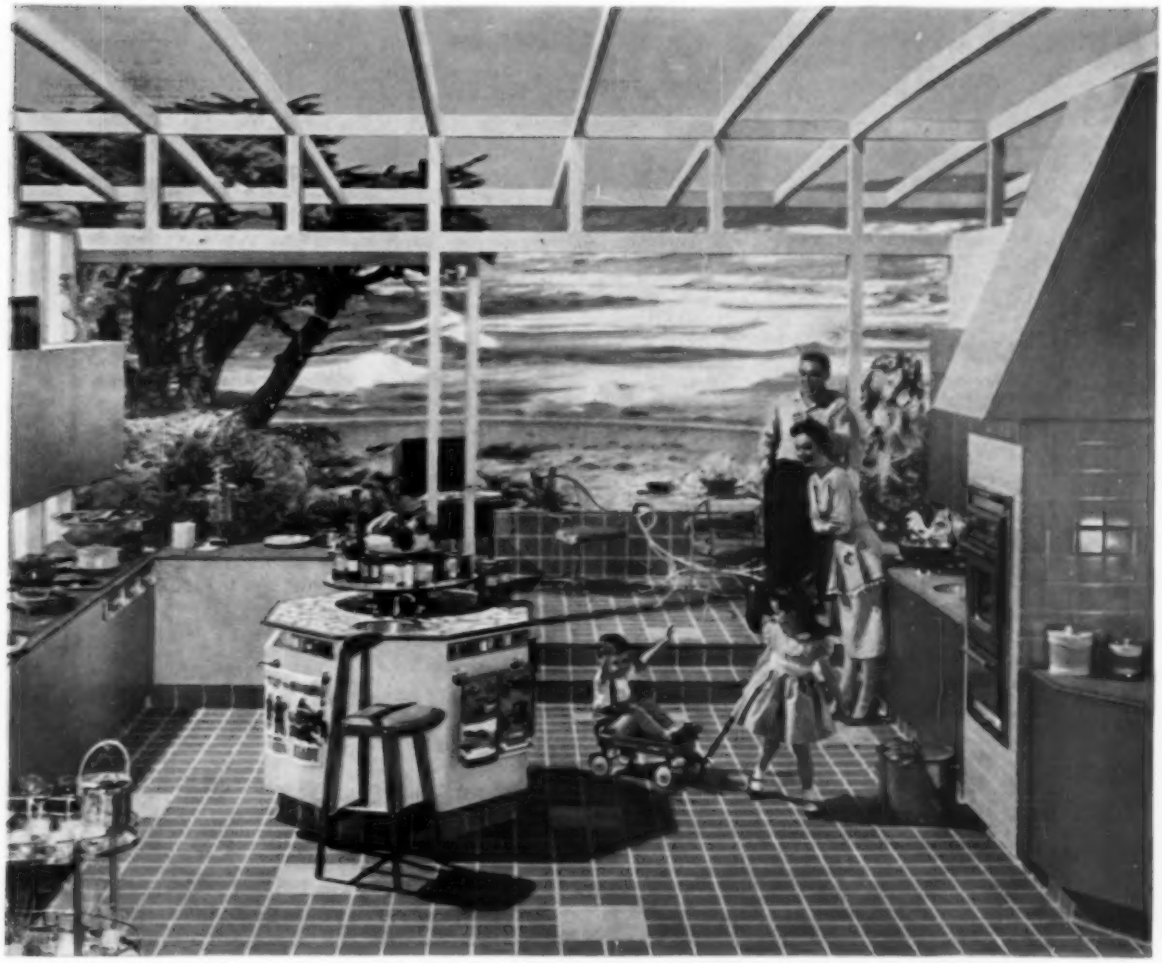
Lester Tichy's Indoor Patio idea is going out to more than 39 million Americans, in over 11 millions copies of Life, House Beautiful, Better Homes & Gardens, Sunset, House & Home, Practical Builder and Flooring.



Lester Tichy, A.I.A., Architect.
G. M. Crocetti, Inc., Tile Contractor.
Accessories and costumes by Lord & Taylor.
Cooking equipment by Magic Chef.
Photo by Pagano, Inc. Plate No. 502.

Noted Architect's Indoor Patio of

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In this indoor patio, Architect Lester Tichy has brought summer fun and freedom indoors for year 'round enjoyment. Selecting his tile from America's only complete ceramic tile line, Mosaic, he found it easy to choose just the right colors and textures for floor, walls and counter tops.

You'll be pleased to learn how easy it is today to own Mosaic Ceramic Tile. It's as simple as visiting our showrooms (see phone book for addresses) or calling your Tile Contractor. His free estimate will show you that if you can own a home, you can own Mosaic Ceramic Tile.

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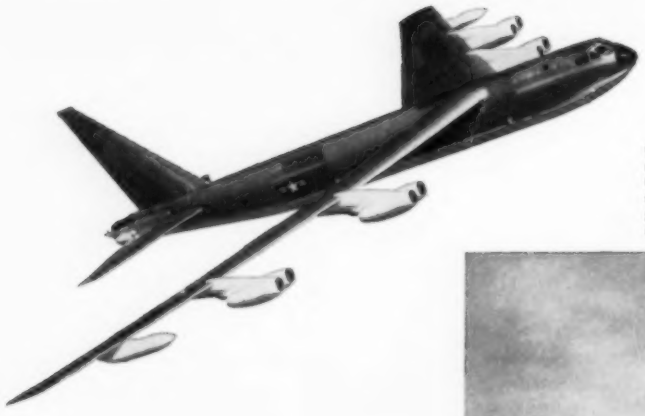

For security reasons, overall photos of the new SAC control building must remain restricted. However, a portion of the building is shown under construction. Evident here and opposite are Ceco Steel Reinforcing Bars, which make the headquarters a steel-ribbed buttress against attack. U. S. Corps of Engineers and Leo A. Daly Company, joint architects-engineers. Robert E. McKee, Inc., general contractors. Construction photos by Corps of Engineers. B-52 jet bomber photo courtesy Headquarters, SAC.

HIDDEN FINGERS OF STEEL

that give Strategic Air Command Headquarters the strength of an Impregnable Fortress . . .

In this Atomic Age, our armed forces buildings must be more destruction-proof than ever—must be able to meet tests beyond the stretch of man's imagination. So reasoned the United States Corps of Engineers and Leo A. Daly Company, joint architects-engineers, in planning the new Strategic Air Command control building at Offutt Field, Omaha. That's why Ceco Steel Reinforcing Bars were assigned to duty at SAC headquarters . . . called up to guard the nerve center of America's long-range all-jet striking force. So today **TOP SECRET** hundred tons of hidden fingers of steel add tensile strength to concrete walls **TOP SECRET** feet thick . . . roofs and floors varying from **TOP SECRET** to **TOP SECRET** feet in depth.

But there's nothing "top secret" about why Ceco Steel Reinforcing Bars were chosen for this vital project. The architects, engineers and contractor all knew they could depend on Ceco's engineering and fabrication. Ceco's reputation for service was a factor. SAC is prepared day and night to deliver nuclear knock-out weapons against an enemy anywhere in the world. And this combat readiness demands the same all-out effort from suppliers.

"We can't say too much in appreciation for the cooperation and good service given to us by the Ceco organization on this job," said Carl Taylor, McKee superintendent. "The fabrication of the steel and timing of deliveries has been of great help to our progress. We certainly give all credit to suppliers like Ceco, who know their business and demonstrate that fact consistently, delivery after delivery."

On your next building project, let Ceco Steel serve you, too, just as it has served Armed Services suppliers and thousands of other customers for 44 years. Consult Ceco engineers in the pre-planning stage . . . not only for better construction, but to cut time, material and labor costs. CECO STEEL PRODUCTS CORPORATION—offices, warehouses and fabricating plants in principal cities—general offices at 5601 West 26th Street, Chicago 50, Illinois.

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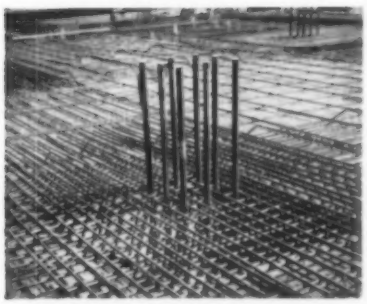
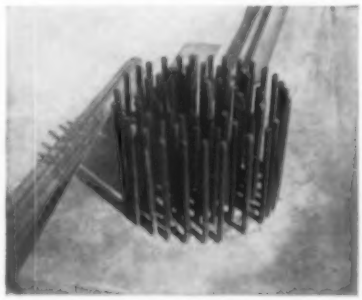
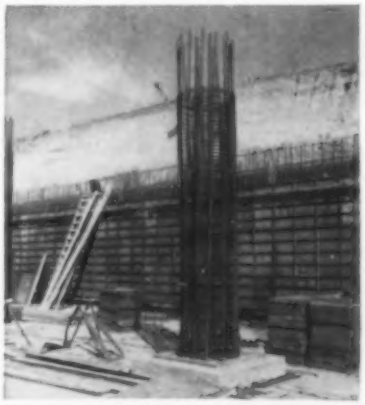


Typical installation of Ceco Steel Reinforcing Bars for column and floor construction at new SAC control building.

Ceco Steel Reinforcing Bars in one wall of new SAC control building.



Typical arrangement of Ceco Steel Reinforcing Bars embedded in foundation for a column in new SAC control building.



Ceco Steel Reinforcing Bars and Spiral are shown here in place, ready for forming and pouring of concrete column.

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Color Selection Is One of the Most Exciting and Important Parts of Home Planning

Before World War II, a large percentage of all home exteriors were painted white. Interiors, too—particularly the kitchen and bathroom—made only limited use of color decorating possibilities.

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Through the services of Howard Ketcham, famous color engineer, Briggs brings you a comprehensive new book of professionally color-styled bathrooms, entitled "Color Guide to Bathroom Design and Decoration." This practical book not only gives you the color-by-color know-how you need to use for modern bathroom styling, but enables you to present *planned color selection* to your customers.

Handsomely prepared, the book contains beautiful and versatile color plans to bring a bright new look to the bathroom. It can help you put correct color's cheerful vitality into an important new place in your homes. It can make your bathrooms a center of attraction and interest—and actually increase the value of your homes!

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Floor tile, accurately cut

Square corners and straight edges are the result of precision engineering in manufacturing the world's most popular line of resilient floor tile. Kentile, Inc. employs constant laboratory checks to assure the accuracy of every tile that leaves the factory. Efficient modern packaging helps protect it until ready for your installation. Installation costs are lower and wastage is minimized thanks to these extra precautions. Uniform thickness, accuracy of cutting, trueness and clarity of color, surface smoothness, ease of maintenance, built-in durability and dimensional stability are added inherent qualities of all tile made by Kentile, Inc. The tile illustrated is "Sparkler", one of the many colors available in the Carnival KenFlex line.

KENTILE, INC. America's largest manufacturer of resilient floor tiles

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It's easy to make sure the drainage system for any building is as permanent as the basic structure you design:

specify CAST IRON SOIL PIPE AND FITTINGS

Replacements are no problem with time tested cast iron. You'll *know* you've given your clients the permanent protection they deserve when you use cast iron for soil, waste, vent, building drain or building sewer piping.

Remember—CAST IRON IS FOR KEEPS

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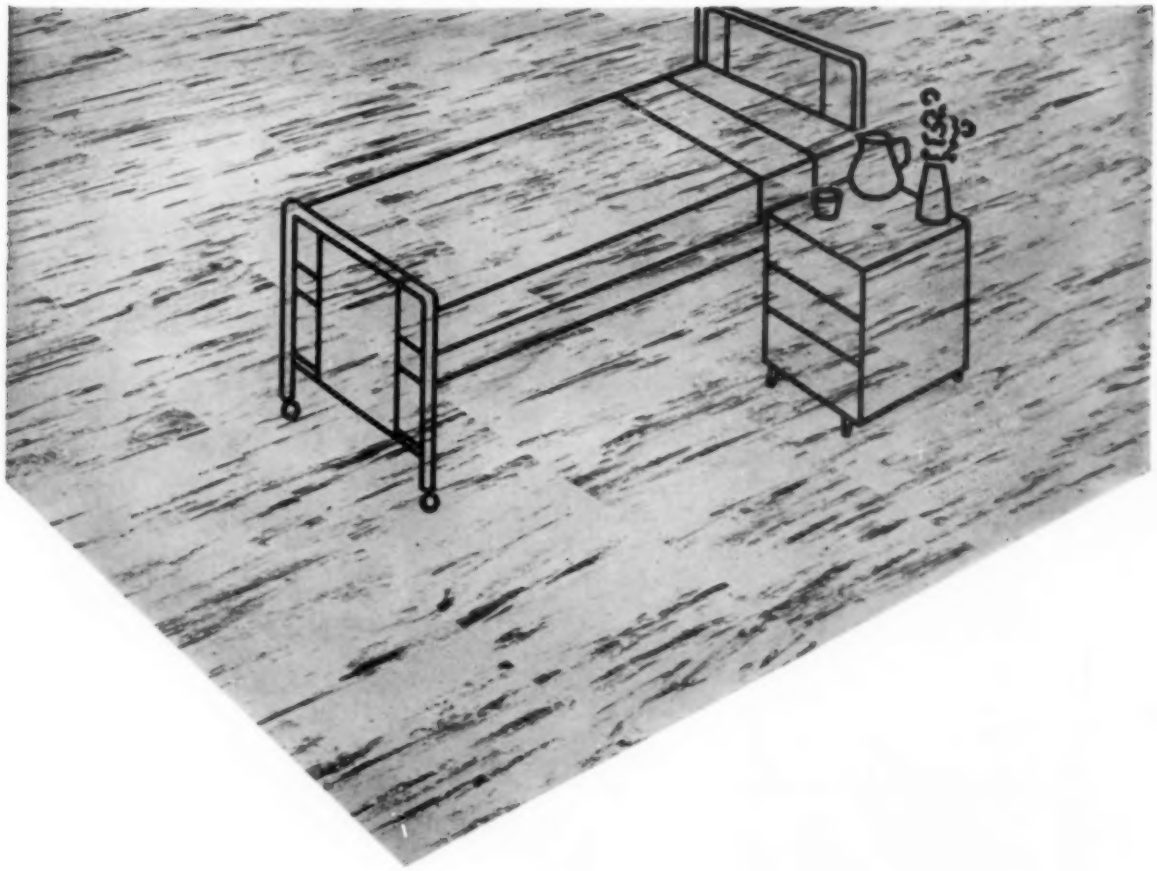

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Vina-Lux vinyl-asbestos tile puts cheerful, colorful beauty underfoot – wakes up your hospital wards and rooms with a sparkling clean and fresh look. It's easy to *keep* that look, too, because Vina-Lux performs equally well.

Its extra tough surface is made for rough usage and easy cleaning. Greases, oils, spilled foods present no problem.
It's slip-safe, and so smooth-surfaced that no waxing is required to keep that clean, brand-new look for years.
See Vina-Lux, and test it in service. You'll welcome its fresh beauty and low-cost maintenance.
Write for information, samples and color chart.

Pattern shown Caliche

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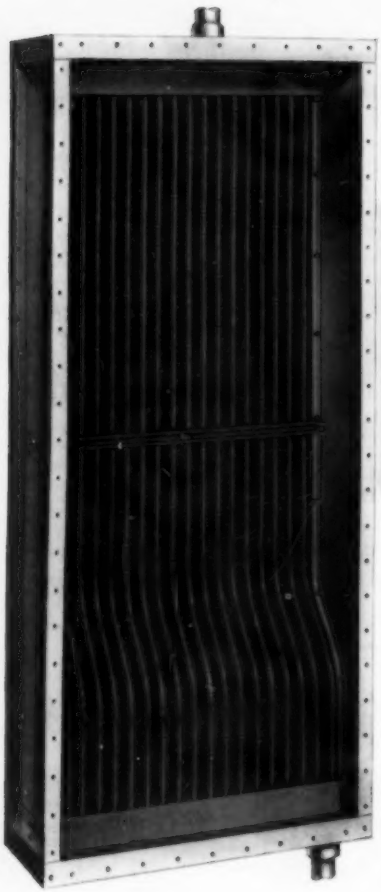

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Your Aerofin man's recommendation means high efficiency, long service life, low maintenance costs.

Aerofin's unequalled laboratory and manufacturing facilities — unequalled knowledge of heat-exchange practice — are devoted exclusively to the design and manufacture of highest quality extended heat surface.

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Design for a modern kitchen by Huson Jackson, A.I.A.

"CERAMIC TILE MAKES THE DIFFERENCE... EASY TO WORK WITH...RELAXING TO LIVE WITH..."

Huson Jackson

To help create a warm functional kitchen, Architect Huson Jackson used ceramic tile . . . and captured this rare combination for work-free convenience and relaxed living.

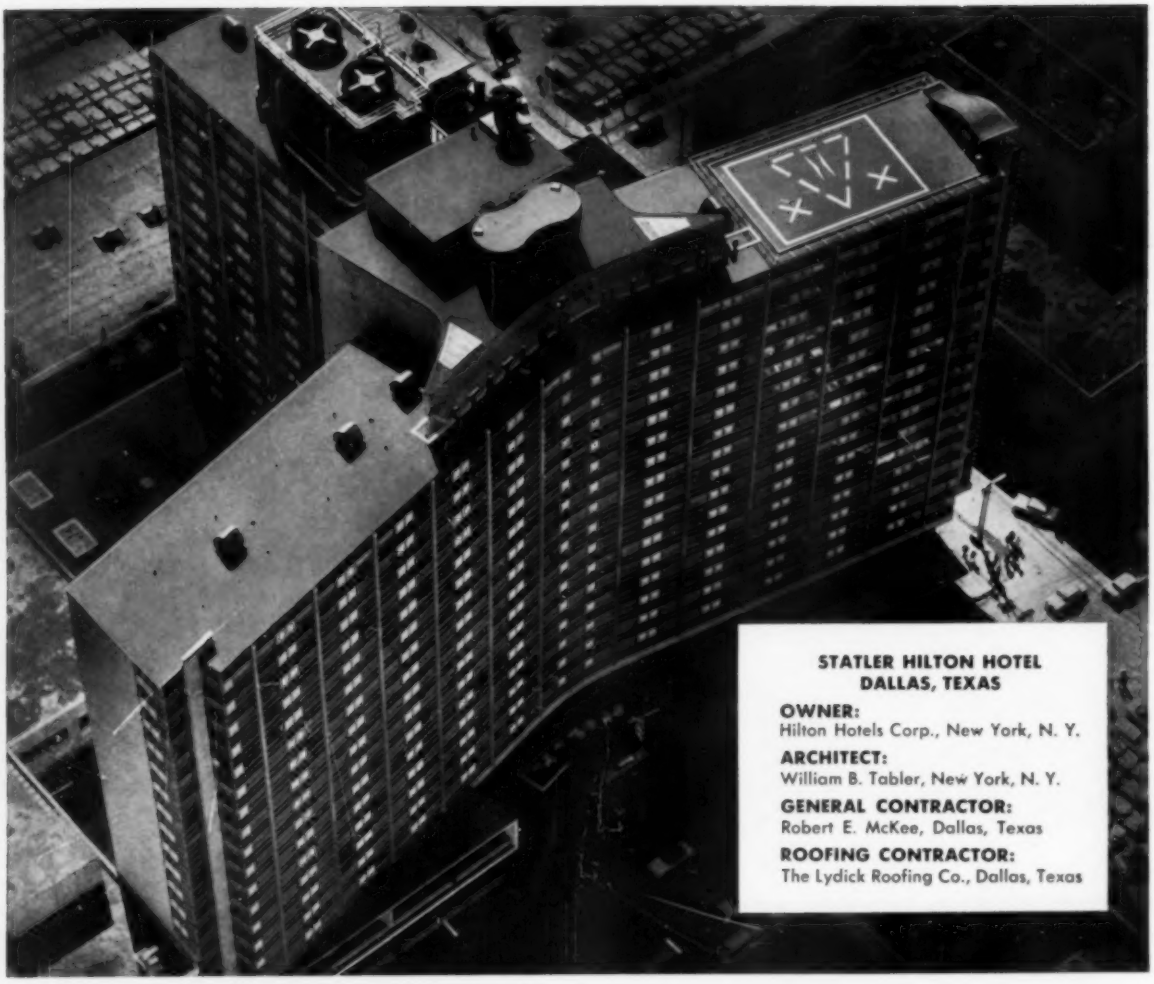
The semi-separation of the breakfast area—to the right of the ceramic tiled cooking island—affords a pleasant place for eating and relaxation. In the kitchen section an aqua tone ceramic tile wall from floor to ceiling keynotes an easily cleaned, colorful work center. The tiled counter tops and drainboards guarantee lifelong service and econor ecause ceramic tile won't burn, scratch or stain.

To answer the rugged demands of family living, a ceramic tile floor is used throughout—linking kitchen and outdoor patio into a single attractive living space when the sliding window wall is open. Specify a ceramic tile floor and you give your client an easily cleaned floor that lasts the life of his home.

Ceramic tile helps you offer your clients unique benefits: custom designs from standard tiles, minimum maintenance and lifetime economy. This is true whether you specialize in residential, commercial or institutional projects. You choose from a broad range of colors, surface textures and sizes. And don't forget to explore the savings made possible by adhesive installations. This type of installation is ideal for many dry wall surfaces.

The Modern Style is CERAMIC tile

TILE COUNCIL OF AMERICA, Inc., Room 3401, 10 East 40th St., N.Y. 16, N.Y. or Room 933, 727 W. 7th St., Los Angeles, Calif.
PARTICIPATING COMPANIES: American Encaustic Tiling Co. • Architectural Tiling Co., Inc. • Atlantic Tile Mfg. Co. Cambridge Tile Mfg. Co. • Carlyle Tile Co. • Dover Ceramic Co. • General Tile Co. • Gladding, McBean & Co. • Jordan Tile Mfg. Co. Mosaic Tile Co. • Murray Tile Co., Inc. • National Tile & Mfg. Co. • Olean Tile Co. • Pomona Tile Mfg. Co. • Ridgeway Tile Co. Robertson Mfg. Co. • Royal Tile Manufacturing Co. • Sparta Ceramic Co. • Stylon Corp. • Stylon Southern Corp. • Summitville Tiles, Inc. United States Ceramic Tile Co. • Winburn Tile Mfg. Co.



On the new Dallas Statler Hilton Hotel...

A RUBEROID BUILT-UP ROOF

Engineered to the job!

The Statler Hilton is the newest member of the family of fine Hilton hotels . . . and a striking, colorful addition to the fast-growing Texas skyline. On top of the Statler Hilton—63,000 square feet of Ruberoid Built-Up Roofings!

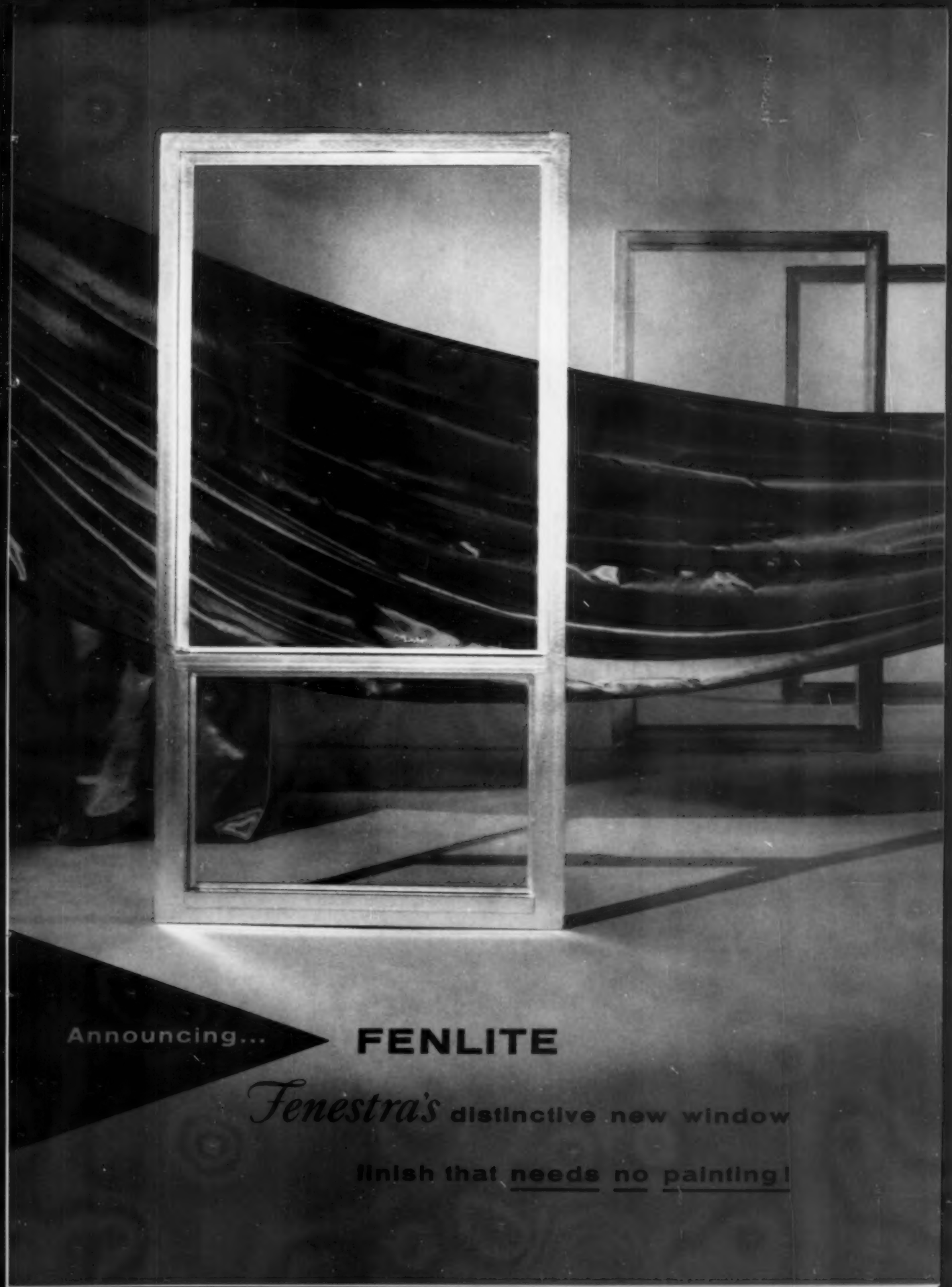
Here is an excellent example of the versatility of Ruberoid Built-Up Roofings in solving varied problems. The design of the Statler Hilton called for three separate roofs:

1. **A UNIQUE HELIPORT DECK** — Ruberoid specification #206 – Coal Tar Pitch and Tarred Felt overlaid with promenade tile – was selected to provide a roof that would stand up under rugged service conditions.
2. **COURT AND LOWER ROOF AREAS** — These areas, visible to hotel guests, required roofing that would harmonize with the over-all appearance of the hotel exterior. Ruberoid Specification #203A –Special Roofing Bitumen with green mineral surfacing was selected.
3. **HIGH SUPERSTRUCTURE AREAS** — Here, Ruberoid Specification #203–Coal Tar Pitch and Tarred Felt with gravel surfacing–was selected for its economy and proven record of long, trouble-free service.

No matter what *your* built-up roofing problem, there's a Ruberoid specification that will give you the answer. They're all explained in detail in the Ruberoid Built-Up Roofing Specification Book. It's your guide to the best in any type of built-up roofing. For more information write: The Ruberoid Co., 500 Fifth Avenue, New York 36, N. Y.

see our catalog in S or write for copy

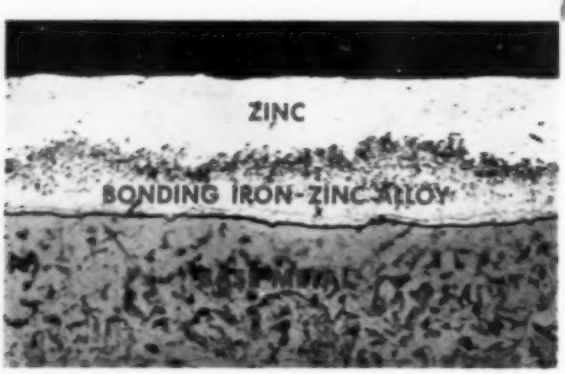
The RUBEROID Co. **Asphalt and Asbestos Building Materials**


Announcing...
FENLITE
Fenestra's distinctive new window
finish that needs no painting!

exclusive

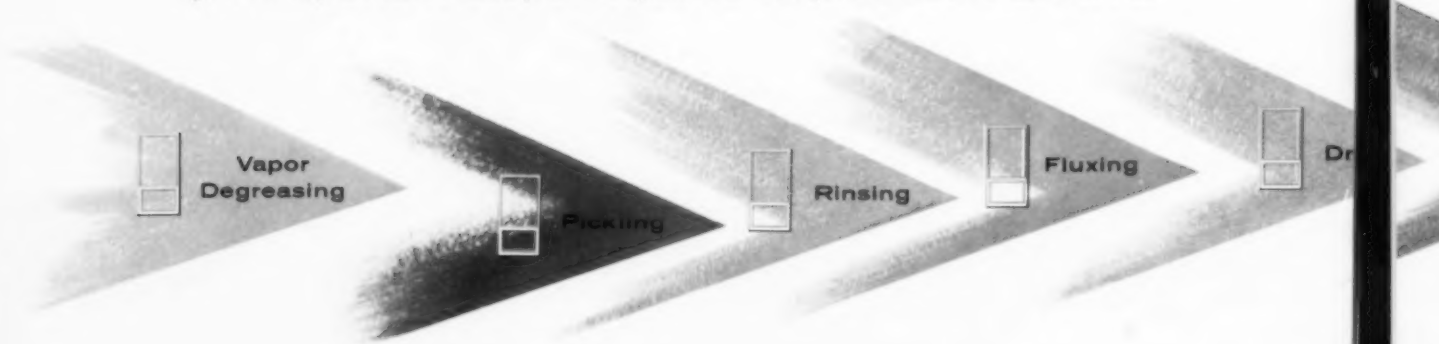
You can see the difference between FENLITE and ordinary metal windows. The distinctive FENLITE Finish adds new beauty to any building. Its lifetime corrosion protection *without paint* assures lowest maintenance costs. Ask your Fenestra Representative to show you a sample, today!

Prove the difference yourself! This bend-bar test demonstrates the stronger bond of FENLITE compared to ordinary galvanizing. Ask your Fenestra Representative to let you try it in your own office!



Here's the alloy bond of lifetime zinc to steel that assures complete corrosion protection, year after year, without painting. FENLITE protection is *self-healing, too!* Pinholes and scratches in the surface are automatically filled in by sacrificial action of the zinc. The steel window surface is protected . . . always!

8 important steps required to produce FENLITE



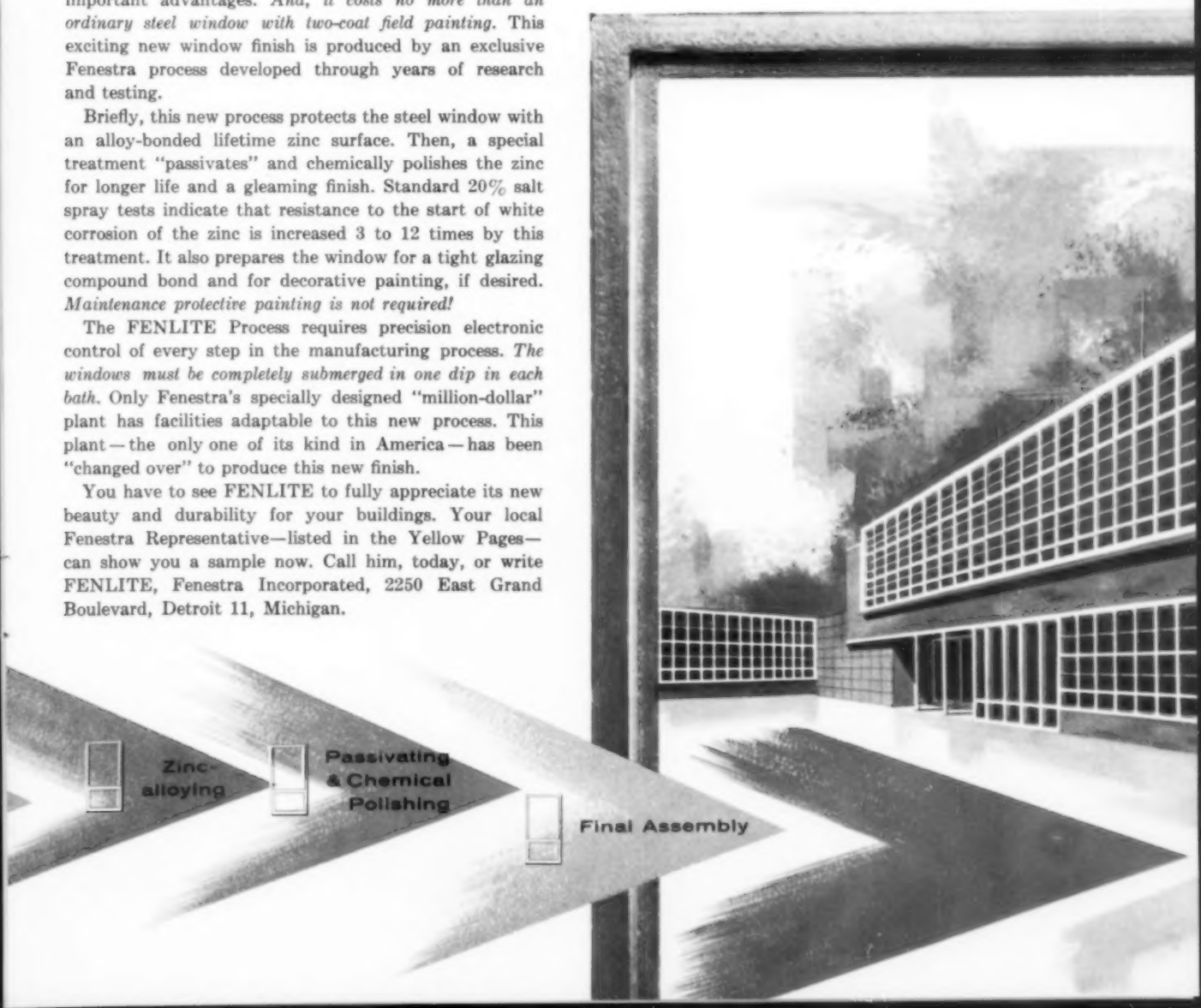
Fenestra® FENLITE process gives you steel-strong windows with NEW BEAUTY and DURABILITY!

Now, here's what you've been looking for in windows . . . distinctive appearance . . . lifetime corrosion resistance without painting . . . plus, the strength of steel. The New Fenestra FENLITE Process gives you all three of these important advantages. *And, it costs no more than an ordinary steel window with two-coat field painting.* This exciting new window finish is produced by an exclusive Fenestra process developed through years of research and testing.

Briefly, this new process protects the steel window with an alloy-bonded lifetime zinc surface. Then, a special treatment "passivates" and chemically polishes the zinc for longer life and a gleaming finish. Standard 20% salt spray tests indicate that resistance to the start of white corrosion of the zinc is increased 3 to 12 times by this treatment. It also prepares the window for a tight glazing compound bond and for decorative painting, if desired. *Maintenance protective painting is not required!*

The FENLITE Process requires precision electronic control of every step in the manufacturing process. *The windows must be completely submerged in one dip in each bath.* Only Fenestra's specially designed "million-dollar" plant has facilities adaptable to this new process. This plant—the only one of its kind in America—has been "changed over" to produce this new finish.

You have to see FENLITE to fully appreciate its new beauty and durability for your buildings. Your local Fenestra Representative—listed in the Yellow Pages—can show you a sample now. Call him, today, or write FENLITE, Fenestra Incorporated, 2250 East Grand Boulevard, Detroit 11, Michigan.



FENLITE

now available on all *Fenestra* windows!

Fenestra Intermediate Windows

High-quality, low-cost steel windows designed to provide draftless ventilation, abundant lighting, easy screening and cleaning and many other advantages for schools, hospitals, clinics, stores, commercial buildings, restaurants, religious buildings, office buildings and other monumental structures. Their slim, modern lines enhance any architectural concept. Available in a wide variety of designs, sizes and types to meet your specifications.

Fenestra Industrial Windows

A complete line of high-quality steel windows for all industrial and commercial buildings. Includes Commercial Projected Windows for plant office areas, Pivoted Windows for manufacturing areas, Continuous Windows for factory skylights and monitors, and Security Windows for "built-in" prowler protection in plants and warehouses. A complete selection of types and sizes.

Fenestra Residential Windows

For fine homes and apartment buildings, Fenestra Residential Windows with the New FENLITE Finish combine lifetime corrosion protection with the advantages of Color-Styling by decorative painting, if desired. Choose Fenestra Casement Windows, with or without muntin bars, Projected (Awning) Windows, or WindoWalls to make any home more beautiful and comfortable. Basement and Utility Windows are also available with the New FENLITE Finish.

Fenestra INCORPORATED

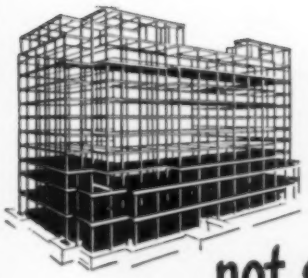
General Offices: 2250 East Grand Boulevard, Detroit 11, Michigan

Local Representatives in 200 Principal Cities. See "Fenestra Building Products" in your Telephone Directory.

Your Single Source of Supply for DOORS—WINDOWS—BUILDING PANELS

TE-15

Litho in U.S.A.



OVERHEARD BETWEEN AN ARCHITECT AND AN INVESTOR:

"No - it's completion time, not starting time, that counts!"

"YOUR INVESTMENT IN A BUILDING CAN'T PAY OFF UNTIL THE TENANTS MOVE IN. Build with steel floors and they move in much, much sooner. No matter how you build, you have to allow time for demolition and excavation. By that time, your steel is ready. And then, steel Q-Floors will knock another 20 to 30% off construction time.

"Look at this model. Those cells are the steel Q-Floor. It is dry, noncombustible, clean. It goes up as fast as the frame. No temporary forms, no shoring. Two men can lay 32 sq. ft. of Q-Floor in half a minute and it immediately becomes a dry, working platform. Even in freezing weather, work speeds along, not delayed by wet materials.

"This is just the first reason for Q-Floors. Think of the electrical availability. After all, you're investing for thirty, forty, fifty years. And you sometimes forget that floors are what a building is for. Even though the floor is a small fraction of total cost, floor space earns the income. It should be alive with ducts, pipes, wires, the earning arteries of a structure. You don't want your building born with hardened arteries, with monolithic slabs for floors.

"See how the load-carrying steel cells of Q-Floor are crossed over by raceways for wires of every conceivable electrical service. This is your assurance that your investment will keep step with future increased demands for electrical business machines. You can put an outlet on every six-inch area of the exposed floor. It literally takes only a few minutes. Floor layouts are permanently flexible. Alterations tremendously simplified. It saves a huge amount of money over the years.

"And Q-Floor costs less than the carpet that covers it.

"There is no reason for not having Q-Floors."

Write for the complete story—

Q-Floor*

*The original cellular steel floor . . since 1930 over 12,500 installations

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Universal

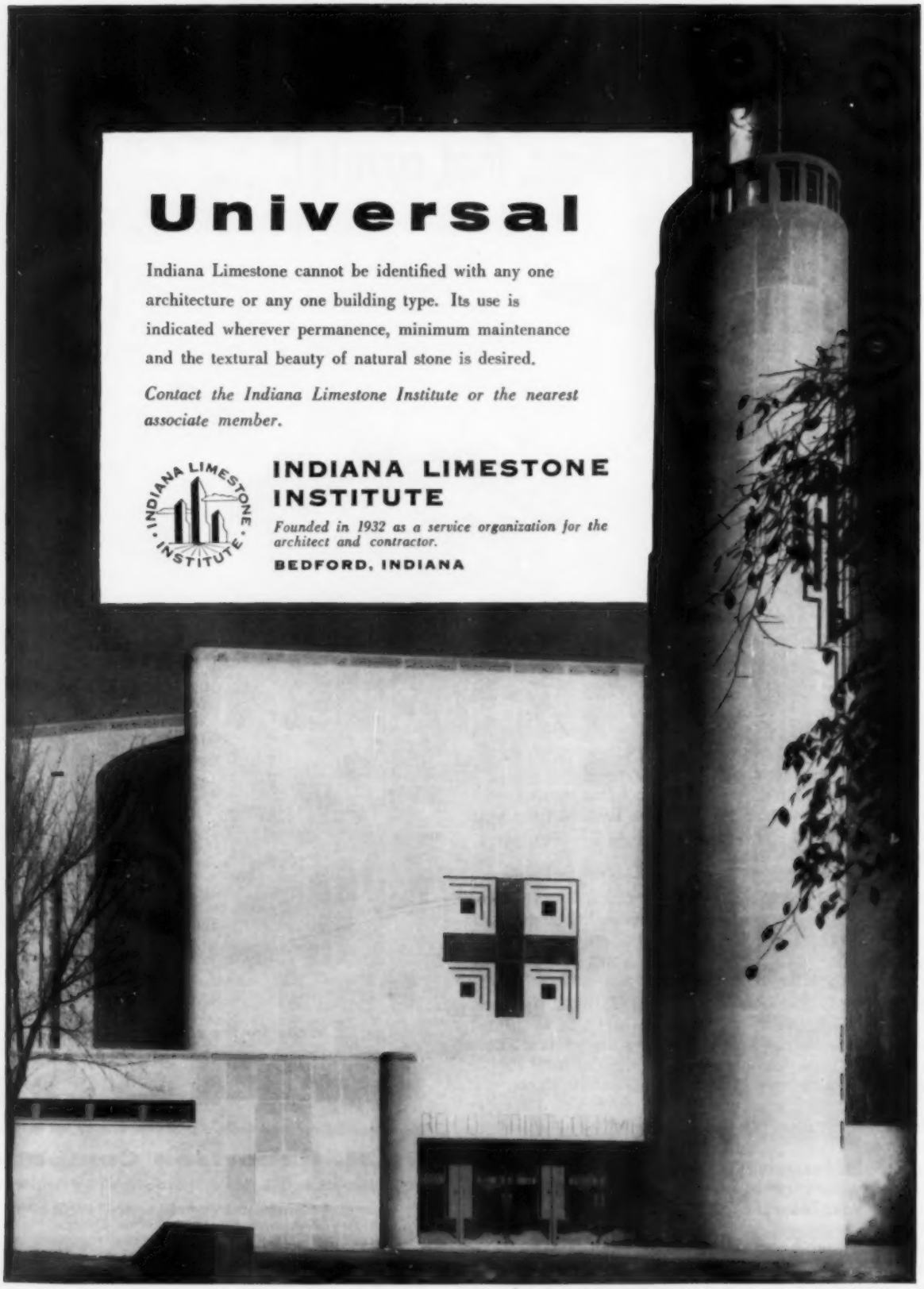
Indiana Limestone cannot be identified with any one architecture or any one building type. Its use is indicated wherever permanence, minimum maintenance and the textural beauty of natural stone is desired.

Contact the Indiana Limestone Institute or the nearest associate member.

INDIANA LIMESTONE INSTITUTE

Founded in 1932 as a service organization for the architect and contractor.

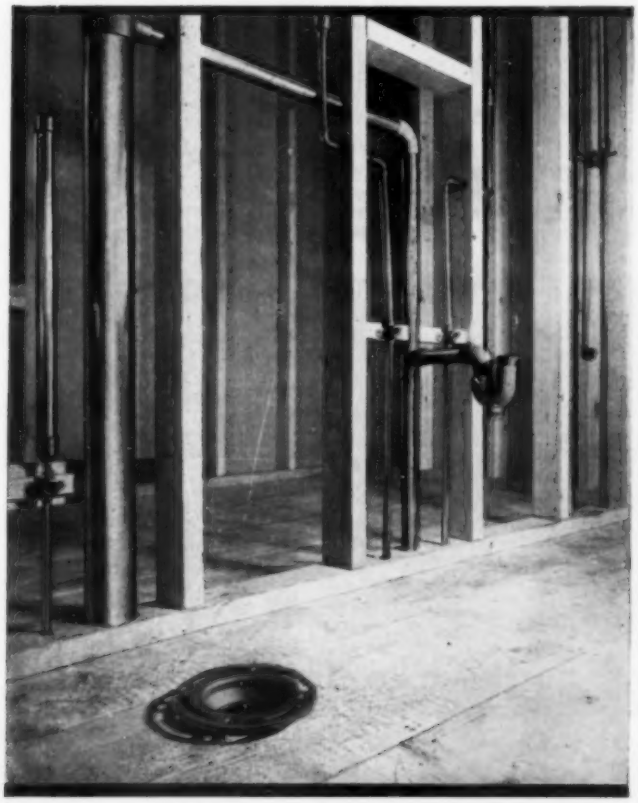
BEDFORD, INDIANA



CHURCH OF SAINT COLUMBA, ST. PAUL, MINNESOTA • BARRY, BYRNE AND PARKS, ARCHITECTS

it pays to offer your clients that "extra" in modern home construction

an ALL-COPPER DRAINAGE SYSTEM



The fact that modern conveniences help sell houses has been proven by builders and architects throughout the country. Many of these extras "leap to the eye" . . . built-in ovens, automatic furnaces, air conditioners, washer-drier combinations, even automatic garage doors. But a more basic convenience, and one that costs only a trifle in comparison, is an all-copper water supply and drainage system. By specifying Streamline® copper tube and fittings for drainage as well as for supply, you give your client an installation that will last the life of the building and will be free of the repairs and annoyances that plague old-fashioned plumbing. Streamline installations are free-flowing and practically clog-proof . . . there are no caulked joints to leak, no rust damage to worry the home-owner. In addition, you can show your client a beautiful smooth copper-and-bronze system that's as modern in appearance as it is in function. It may cost more to use copper throughout, but the extra cost is negligible in view of the sales appeal and practical advantages. Contractors often report that the finished job costs less with Streamline tube and fittings, because of the shorter installation time and the fact that our compact 3″ stack fits into a standard 2″ x 4″ partition, eliminating the need for furring.

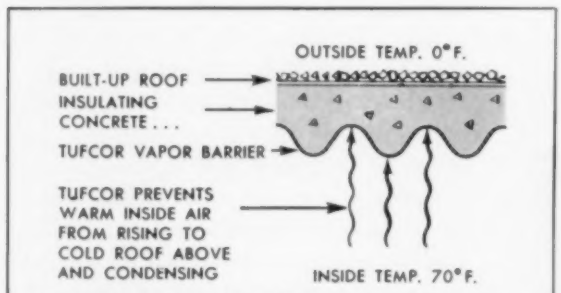
REMEMBER—The advantage of using all-copper Streamline tube and fittings is worth many, many times the small extra cost! *Write today for information kit No. 15 containing the detailed story of copper for drainage.*

MUELLER BRASS CO.

PORT HURON 33
MICHIGAN

Overhead . . . Underfoot . . . the world's greatest air terminal uses TUFCOR® steel decking

655 acres of buildings, parks, roadways and taxi-ways . . . facilities for 6000 cars and 140 airplanes at a time . . . 8½ million travelers a year—that's New York International Airport's dazzling new "Terminal City," rushing now toward completion. And to make sure it's the world's finest airport, to keep it on schedule, The Port of New York Authority is specifying the finest building materials available. It chose Tufcor permanent steel decking for casting 412,000 square feet of floors and 138,000 square feet of roofs in the International Arrival Building, to be completed in mid-1957. In the floors, Tufcor serves as a permanent steel form for lightweight, structural grade concrete and provides a safe platform for workers on the job. In the roofs, Tufcor deep corrugated steel is the ideal long span, high strength, permanent steel base for lightweight insulating concrete. Unsurpassed for high strength and toughness, it is also firesafe and serves as a positive check against roof fires. And Granco's new, hot-dip galvanizing process guarantees an even coating of protective zinc. Like to have the advantages of Tufcor on *your* next job? For more information, costs or estimates, consult Granco home or district office. Attention: Dept. P-65.


OUTSIDE TEMP. 0°F.
BUILT-UP ROOF
INSULATING CONCRETE . . .
TUFCOR VAPOR BARRIER
TUFCOR PREVENTS WARM INSIDE AIR FROM RISING TO COLD ROOF ABOVE AND CONDENSING
INSIDE TEMP. 70°F.

AN EFFECTIVE VAPOR BARRIER. Water vapor does *not* penetrate Tufcor steel decking as it does porous roof deck. Lab tests show Tufcor stays at room temperature, stays dry, acts as an effective vapor barrier that maintains insulating properties, actually saves thousands of dollars a year in fuel bills!

GRANCO — SINCE 1878 GRANITE CITY STEEL

See our listing in Sweet's Architectural File and Industrial Construction File

GRANCO® STEEL PRODUCTS COMPANY

A Subsidiary of GRANITE CITY STEEL COMPANY

6506 N. Broadway, St. Louis 15, Mo., Executive Offices: Granite City, Ill.

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TUFCOR ELIMINATES MEASURING AND CUTTING. Sheets arrive at the job site conveniently bundled and precut to fit steel framing. Actual job photo shows Tufcor sheets are easy to handle, easy to weld in place. The minute Tufcor sheets are down, they create a safe, strong, incombustible platform, protect workmen above and below the steel decking.

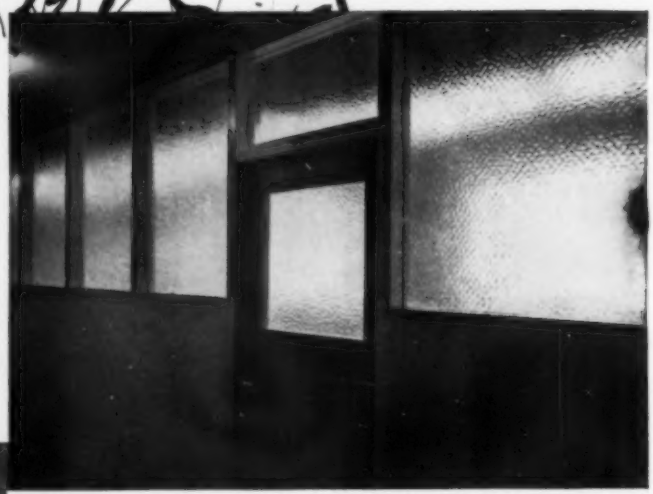
15 MILES FROM TIMES SQUARE, New York's new $90 million "Terminal City" at International Airport will feature an eleven-city-block long International Arrival Building and adjacent Airline Wing Buildings, individual airline terminal buildings, seven and one-half miles of taxi-ways, and ten miles of two-lane roads! This modern, efficient air terminal will be the world's largest. Operators: The Port of New York Authority. *Architects* for the International Arrival Building: *Skidmore, Owings & Merrill*, New York City. *General Contractors: Cauldwell-Wingate Company*, New York City.

HIGH STRENGTH TUFCOR FORMS A TIGHT, solid, *level* base for concrete, helps eliminate costly clean-up on floors below. Elimination of forms speeds concrete placement. End result: a rigid and permanent roof or floor slab with unsurpassed strength. Tufcor can also be used for wall panels and as a concrete form for bridge floors and pipe tunnels.

Beauty on Duty

California County Hospital Brightens Interiors with 6000 Square Feet of Mississippi Glass

Extensive use of rolled glass in partitions, doors, and windows gives this new San Mateo County Hospital a bright, cheerful atmosphere . . . creates a pleasant environment for staff, patients and visitors. The extreme practicality of glass partitions as well as their unexcelled beauty recommended their installation. The diffusing glass floods rooms and corridors with softened "borrowed light," yet protects privacy. And maintenance is so simple . . . the glass wipes shining "hospital clean" with a damp cloth, never requires repainting.



Privacy plus protection against breakage or fire is achieved with this installation of Smooth Rough Misco Wire Glass. Misco, approved Fire Retardant No. 32, tends to help battle up fires.

Architects: Stone, Mulloy, Marraccini & Patterson, San Francisco
Glass and glazing by: San Francisco Glass Company

Clear Polished Misco provides maximum protection with undistorted view. This is widely preferred for windows, doors, skylights.

Structural Corrugated Glass is translucent without being transparent, brightens both rooms and halls with "borrowed light".

When you build or remodel consider the many benefits that only glass can offer you in partitions, doors, windows, skylights. Specify Mississippi Glass. Available everywhere in a wide variety of patterns and surface finishes for every daylighting requirement.

Send for free catalog. Address Dept. 8.

MISSISSIPPI GLASS COMPANY
88 Angelica St. • St. Louis 7, Mo.
NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

BIG SAVING!

10 and 16-ounce Chase® Thru-Wall Flashing actually gives you more copper at less cost!

Typical Chase Thru-Wall Flashing installation.

Remember, it's the COPPER that does the water-proofing job of flashing through a masonry wall—and the expenditure should bring the MOST COPPER to the job.

Why pay for thinner copper (and less protection) when you can get the full protection of Chase Thru-Wall Flashing for less money?

10-ounce Chase Copper Thru-Wall Flashing costs 25% *less* than 7-ounce "copper fabric" or membrane flashing, yet Chase gives you *42% more copper!*

16-ounce Chase Copper Thru-Wall Flashing, which costs only about 8% more than 7 oz. membrane flashing, actually gives you a bonus of *128% more copper!*

Chase Copper Thru-Wall Flashing is made from *rolled temper* copper—not just a dead soft "deposited" temper. (This feature alone means *years* more service!) And Chase Flashing has a 3-way bond keyed right into the metal—a watertight bond secures the wall *for good!*

For more information, write for free folder giving details and specifications.

Chase®

BRASS & COPPER CO.

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

The Nation's Headquarters for Brass, Copper & Stainless Steel

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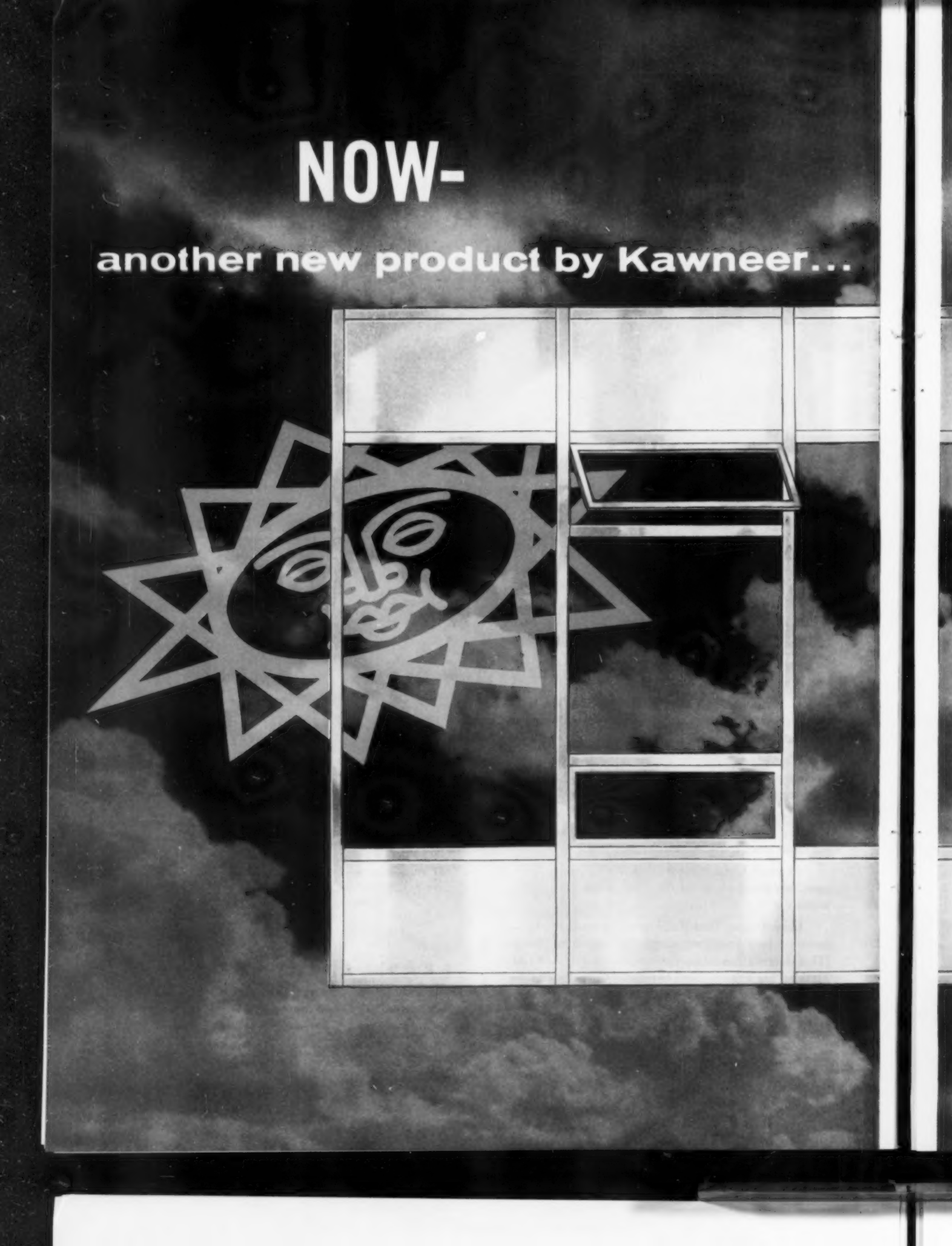
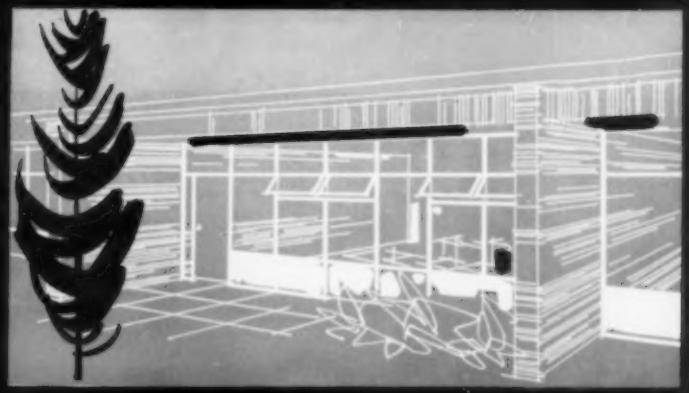
NOW-

another new product by Kawneer...





a **unit wall** with all the features you need for contemporary construction

Kawneer announces another new creative tool for the architect . . . the KAWNEER UNIT WALL. This versatile exterior wall system is composed of standard components that provide complete flexibility of design. There is a wide selection of modular components, window units, both operable and fixed, solid panels with colored porcelain and insulation, and a complete variety of flush or glazed doors available in many types and sizes. There is a choice of proportions within the units themselves. All parts are readily available because of the standardized program.

Standard units are factory assembled and shipped complete with insulated panel, sash and doors. Now you have complete design flexibility with attractive window, wall and door panels.

MODULAR COMPONENTS. Standard units are provided in modular sizes. Special filler widths are available where required.

SPLIT MULLION DESIGN. Interlocking mullions provide for horizontal expansion and contraction.

CLEAN SIGHT LINES. Glazing beads for fixed sash are recessed to be flush with the mullion, providing clean sight lines and unobstructed vision.

PUTTYLESS GLAZING. Vinyl weatherstripping throughout, reduces glazing time and provides a clean permanent and easily replaceable glazing system.

NO EXPOSED FASTENERS. Units are assembled with concealed fasteners and glazing beads are installed by a positive toe-heel interlock.

FLUSH INTERIOR DESIGN. Interior face of mullion and muntin bars lie in the same plane, facilitating the installation of interior furnishings.

STANDARD DOOR UNITS. Factory assembled door units are offered as an integral part of the program and are interchangeable with wall units.

QUALITY SASH. Specially designed operable sash is provided with double vinyl weather seal and rugged lifetime hardware.

COMPETENT WORKMANSHIP. Closely controlled fabrication and assembly in the factory result in tight, accurately fitted joints and a high quality uniform finish.

RAPID INSTALLATION. A minimum number of parts handled on the job site and adequate provision for building tolerance insure simple accurate installation.

Write for 12-page illustrated Unit Wall book

50TH ANNIVERSARY

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General Offices
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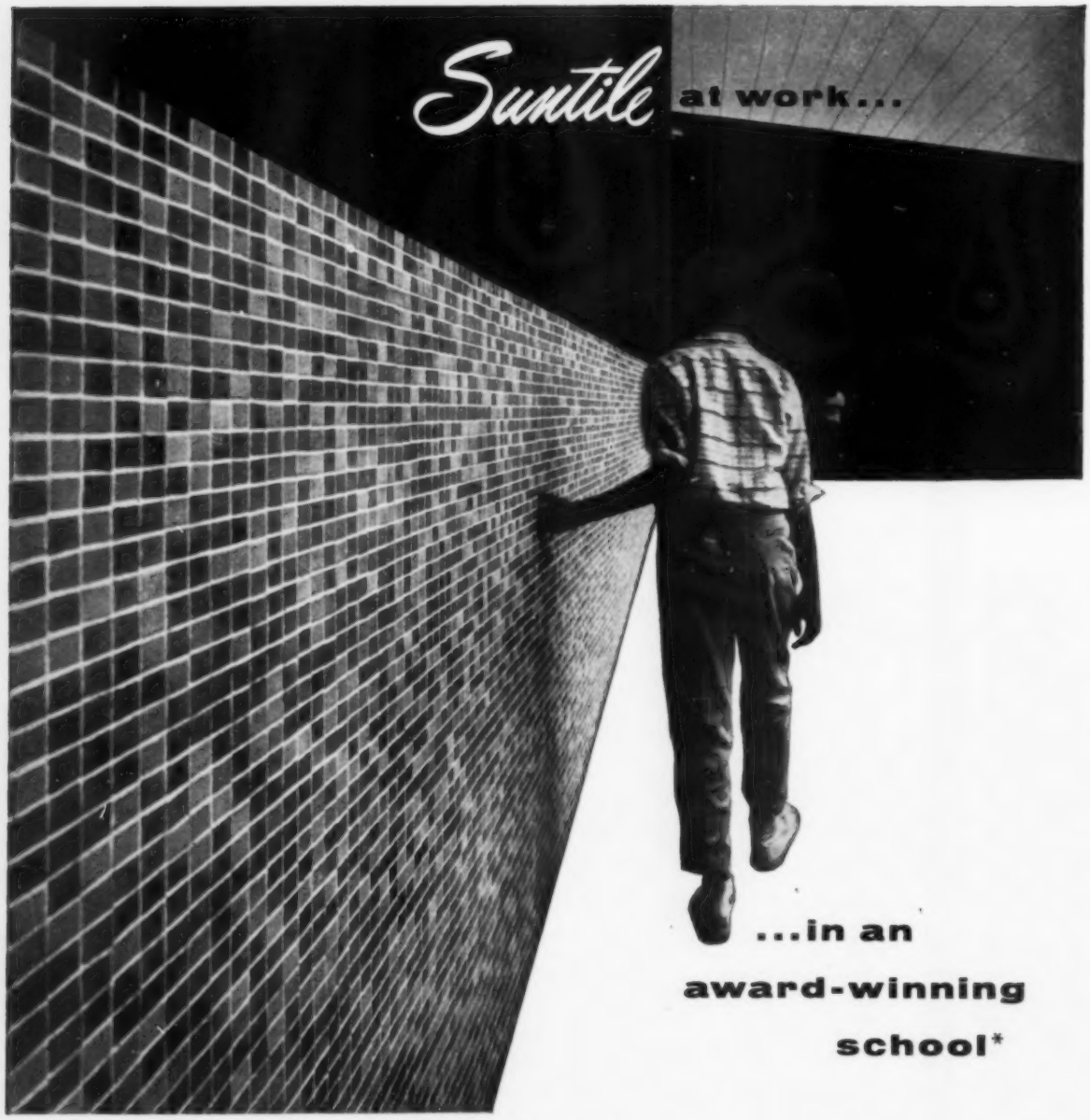
ARCHITECTURAL PRODUCTS DIVISION

1906 – 1956



*SPECIAL FEATURE CITATION, BY 8TH ANNUAL BETTER SCHOOL DESIGN GROUP.

HANDSOME PROTECTION

Here's what Superintendent of Schools Theodore L. Bystrom says about ceramic Suntile in the award-winning Havens School, Piedmont, California, designed by noted school architect John Carl Warnecke:

"We are very pleased with this corridor wainscot of ceramic Suntile. It's handsome, protects the walls from normal school traffic and lowers our maintenance and cleaning costs."

When you want *both* style and practicality for floors and walls—call your Authorized Suntile Dealer...You'll like the functionally balanced Suntile colors... And for special designs in Suntile, the services of our staff of trained ceramic artists are always available to you at no cost.

SEND FOR NEW LITERATURE showing full color range, installations, and exciting new stock patterns by designer Max Spivak. Address Dept. PA-106

THE CAMBRIDGE TILE MFG. CO.
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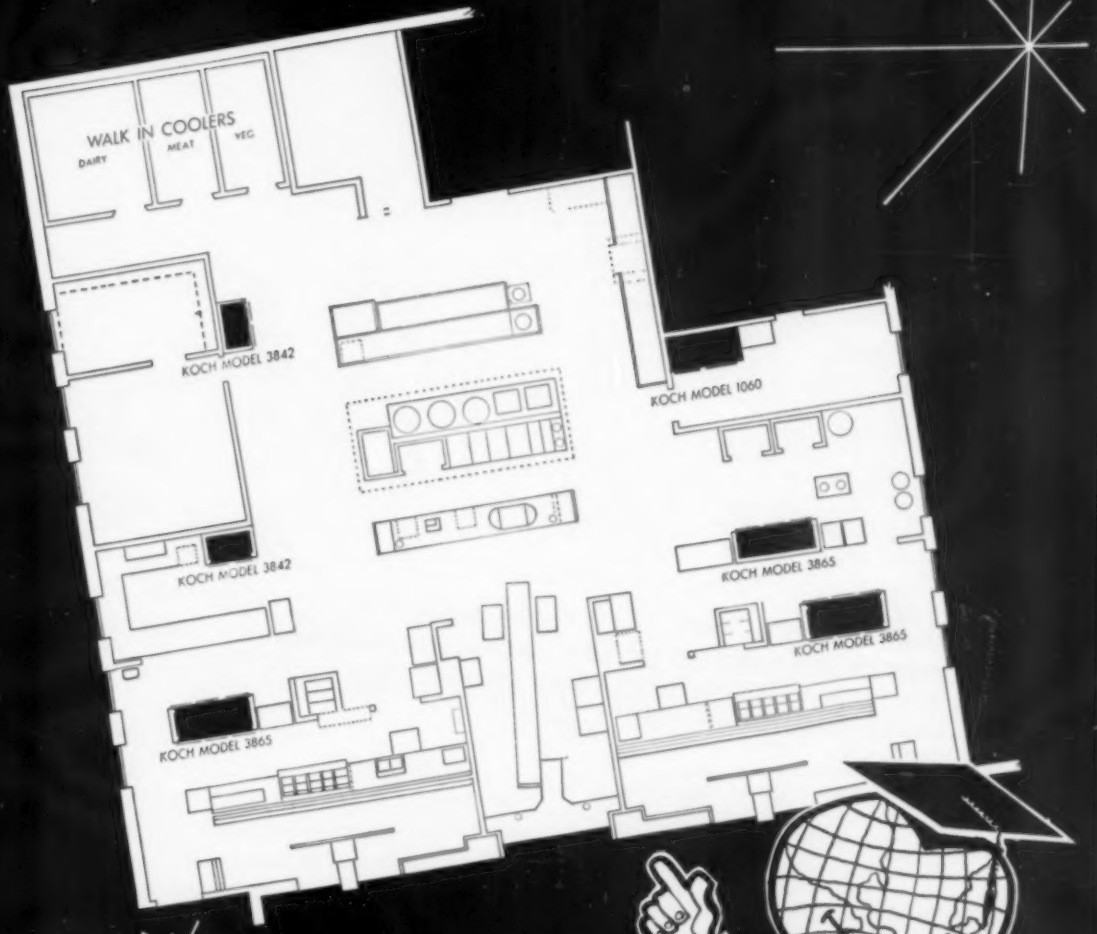
A Good Layout Demands

GOOD EQUIPMENT



Good Equipment means KOCH in mass feeding establishments all over the world

FOWLER HOUSE, PURDUE UNIVERSITY, LAFAYETTE, INDIANA

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Installed by:
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Cincinnati 2, Ohio

KOCH

refrigerators, inc.
KANSAS CITY 15, KANSAS

KOHLER PLUMBING FIXTURES

selected for the 352 bathrooms in

Below: Tahoe lavatory in an Eden Roc bathroom.

Sumptuous Eden Roc Hotel, Miami Beach, Florida, is one of many recently completed institutions to choose Kohler fixtures and fittings for first quality, attractive modern design, and reliable, time-tested serviceability.

Baths at the Eden Roc are the luxurious Cosmopolitan, with glass-hard, easy-to-clean Kohler enamel fused to a base of non-flexing iron, cast for rugged strength and rigidity.

The more than 1300 Kohler fixtures installed also include Tahoe enameled iron built-in lavatories, vitreous china Jamestown lavatories and Brooklands closets. All-brass, chromium-plated Kohler fittings match the fixtures in style and quality.

Over the coast-to-coast Mutual Radio Network
Kohler Co. will present the November 6th Election Returns

as a public service, continuing Kohler sponsorship of the year's three major news events—which included the Democratic and Republican National Conventions. Kohler messages on these broadcasts will serve the interests of dealers, contractors and distributors of Kohler products.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

See how much bigger this classroom looks because of its Daylight Wall (with sliding glass doors). Wonderful solution to the problem of limited space. Emory School, Palm City, California. Architects: Paderewski, Mitchell & Dean.

LOOK WHAT A DAYLIGHT WALL DOES

This light, bright classroom tells you better than any words why 44 out of 45 teachers surveyed in a research project were in favor of daylight walls.

Typical comments:

"Students do not get tired and restless, because there is no feeling of confinement."

"The lighter, brighter surroundings create a good environment for learning."

If you'd like the complete study, read the column at the right and mail the coupon.

LOF GLASS

DAYLIGHT WALLS

LIBBEY • OWENS • FORD

...A GREAT NAME IN GLASS

DAYLIGHT WALL FACTS

Daylight is the primary source of light for classrooms. Since most of the United States is cloudy or overcast during most of the year (especially during school months), the main problem is to bring *enough* daylight in. The Daylight Wall *answers* that problem. In a typical 24-foot-wide classroom, on a dark, overcast day with only 500 foot-candles of light on the Daylight Wall, there can be 53 foot-candles or more on even the last row of desks from the windows. That is *23 more foot-candles* of eye-easy light than the minimum recommended by the American Standard Practice for School Daylighting! That's what clear glass will do for you.

Let us send you a booklet giving you valuable information concerning:

Light needed on various room surfaces

Bilateral, clerestory, monitor design

Window variations to fit the need

Light transmittance data

Dept. 45106
Libbey-Owens-Ford Glass Company
608 Madison Avenue, Toledo 3, Ohio

Send me Daylight Walls booklet M-12 and a report by Prof. Paul R Hensarling.

Name_____
(Please Print)

Address_____

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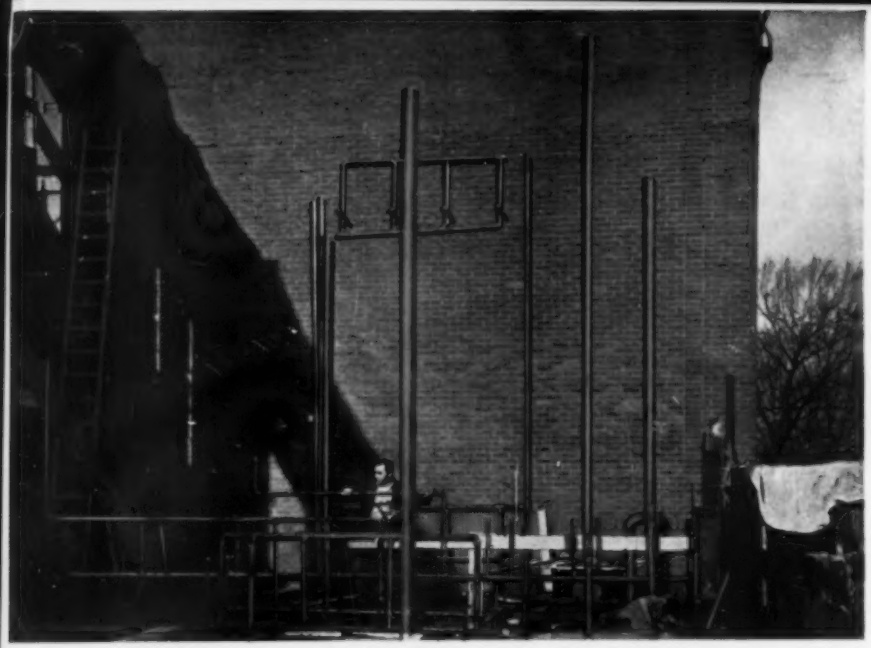


Installation can keep ahead of building construction. The lightweight, long lengths of copper tube make it possible to complete much of the roughing-in work ahead of other construction—as in this school building addition. Note preassembled unit high on wall.

Easy to cut. The standard 20′ lengths eliminate many joints in long runs. For shorter lengths, tubes are cut easily, accurately by hack saw or tube cutter.

Only copper gives you all these advantages

All-copper plumbing gives great freedom of design. Locate bathrooms and utilities where they belong without complicated, expensive construction to provide extra space for installation and maintenance.

All-copper plumbing saves time. Contractors report that installation time has been reduced one-third to one-half because it is so easy to install. This means better utilization of skilled manpower and faster completions.

All-copper plumbing lasts. It never rusts and it resists corrosion. The smooth inside surfaces of copper tubing and fittings minimize the possibility of clogging. Hide it in the wall—bury it in the ground—and forget it.

Anaconda Copper Tubes are available in all standard wall thicknesses—Type K, L, M and the new lighter weight Type DWV Copper Drainage Tube. Type K has the thickest wall and is used for underground lines. Type L is recognized as the standard weight for interior water supply and heating lines, and for sanitary drainage lines buried underground within the building. Types M and DWV are used for all above-ground lines of a building's sanitary drainage system.

Anaconda wrought and cast solder-joint fittings are available in a wide range of sizes and types.

Write for descriptive literature on ALL-COPPER plumbing. Address: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

5640

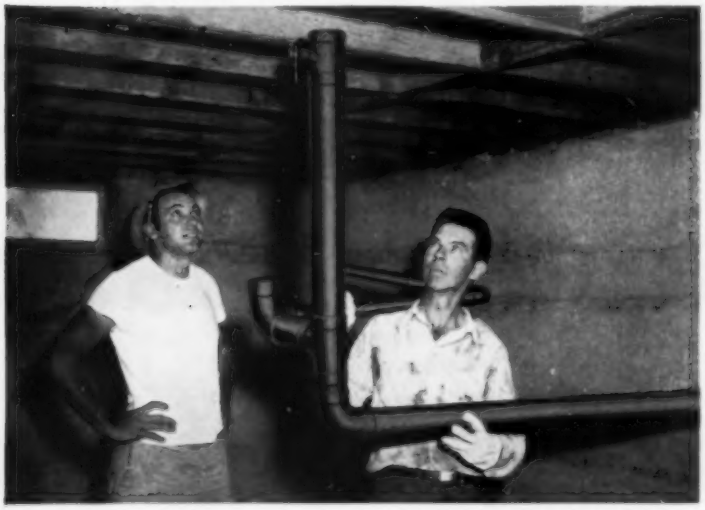
ANACONDA®
COPPER TUBES AND FITTINGS
Available Through Plumbing Wholesalers

Easy to install in tight spots. The light weight of copper tube and fittings—the ease of making solder joints—make installation simple and fast, even in cramped working areas.

Where plumbing shows, copper says quality. Owners and buyers recognize copper as a sign of quality—of long life with low maintenance, and assurance of higher resale value for the property.

Tube and fittings fit in standard partitions. A 3" copper tube stack with fittings can be installed within a standard 4"-wide stud partition.

Save space and weight in all buildings—even skyscrapers. Copper tubes in main pipe shaft of a 43-story office building. Copper tube saves space because pipe shaft and furred spaces at columns and ceilings can be smaller. Light weight speeds installation.

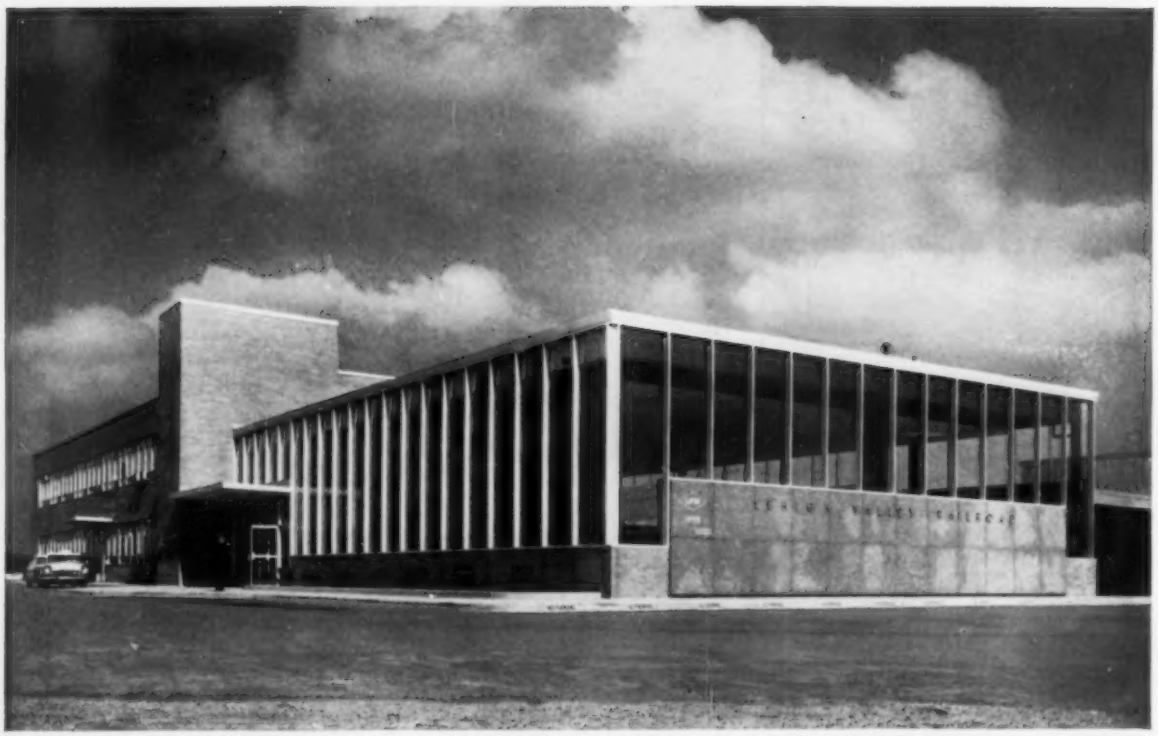


Lightweight for easy, fast handling. This preassembled section comprising about 13 feet of copper tube and 5 solder-joint fittings weighs only 35 pounds, is easily handled by one man.

Prefabrication speeds construction. Sections like this can be preassembled out in the open or at the shop where men can work easier and faster—no lost time waiting for construction.

Simplify remodeling jobs. Lightweight copper tube and solder-joint fittings made light work of an otherwise back-breaking job, in adding two baths in this remodeled residence. Note how little ceiling height was lost.

Trim, compact lines. In this remodeling job, two stud spaces served as the chase for the copper tube risers. The large tube is the soil stack; smaller tubes are water supply and heating lines.



Architects for the new Buffalo Terminal of the Lehigh Valley Railroad were Lacy, Atherton and Davis of Wilkes-Barre, Pa. *General Contractor:* Sordoni Construction Co., Forty-Fort, Pa.

LONGSPANS IN ROOF STRUCTURE PROVIDE COLUMN-FREE SPACE IN RAILROAD TERMINAL

The new Buffalo terminal of the Lehigh Valley Railroad is a modern brick-and-steel-frame structure housing both freight and passenger facilities. Located on a 35-acre site, the new terminal has twelve tracks, a 25-ton Gantry crane and facilities for the repair of diesel engines and passenger equipment.

The passenger waiting room is a one and one-half story wing of the main building. It is surrounded on three sides by tall glass windows. Because Bethlehem Longspan Joists were used in the roof structure, the waiting room has large open space, uncluttered by an excess of supporting columns.

The use of Bethlehem Longspans in the waiting room roof structure provided other important advantages, too. Building costs were lowered, for the Longspans reached the job site fully fabricated, clearly marked and ready for instant placing. And installation of overhead lighting and ductwork was greatly simplified, as pipes and conduit were run right through the open webs.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation.

BETHLEHEM LONGSPAN JOISTS

BETHLEHEM STEEL

trial by fire in a gourmet's workshop

POMONA TILE

All is poised in anticipation of sampling a culinary triumph. A sizzling, scorching, red-hot skillet is whisked from fire to tile top. No need for worry! This kitchen deck surface, fashioned of Pomona Tile's flint-hard Perma-glaze, really defies abrasions, highly potent acids, and red-hot temperatures. That's why Pomona Tile is the natural choice for installations surrounding built-in ranges. Color is Sandalwood, softly rich, handsomely textured in the popular 6"x 4½" size. For client satisfaction, it's always smarter to specify Pomona Tile.

Write for free catalog with actual tile samples of full line of colors.

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AMERICAN BLOWER AIR CONDITIONING

l. to r. Consulting Engineer J. M. Schweiger, Planning Director R. A. Flynn, City Manager H. W. Starick, Safety Director C. W. Horlacher, and R. J. Perkins, manager of American Blower's Dayton office, review plans for the Safety Building's air handling equipment.

They're creating another "first" for Dayton

With a reputation as one of the nation's most progressive cities, Dayton, Ohio, has an impressive number of "firsts" to its credit. Dayton, for example, was among the first to employ the popular city-manager type of local government.

The conference pictured above concerns an air conditioning first for Dayton.

For, the new Safety Building – housing all police division functions and municipal courts – is the first building owned by the City of Dayton to be fully air conditioned.

American Blower is a major supplier of air handling equipment for air conditioning and heating and ventilating in the Safety Building. Indoor temperatures are pleasantly fresh and cool – thanks to the efficient operation of American Blower air handling equipment which handles a portion of the air conditioning load.

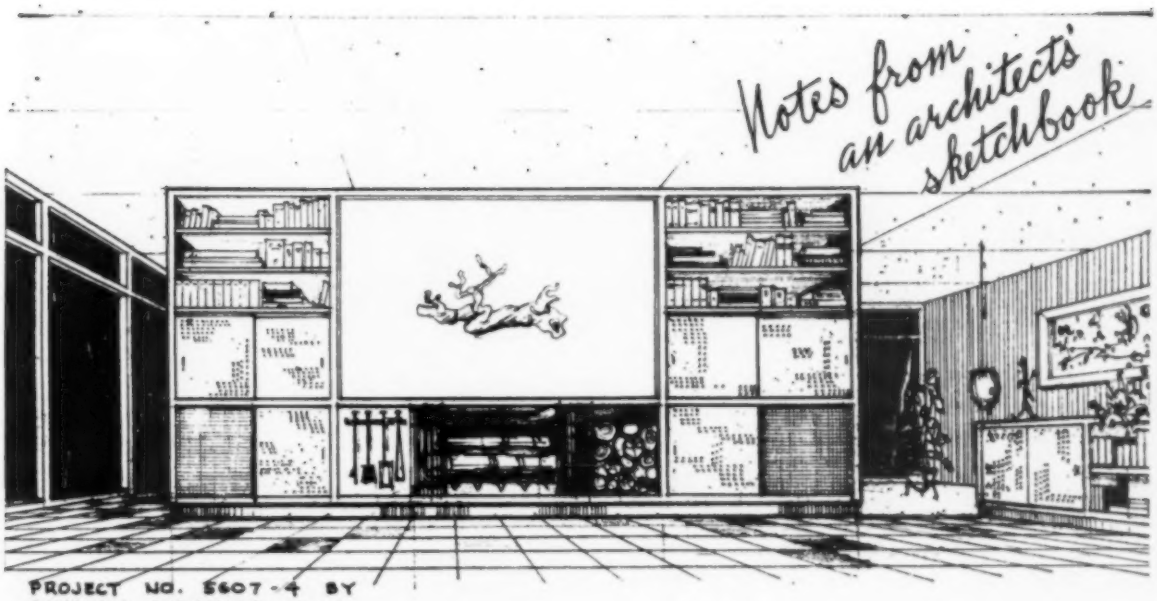
The Dayton Safety Building's system is another example of the quality products combined with helpful on-the-spot local service you get when you specify "American Blower." American Blower Corporation, Detroit 32, Michigan. In Canada, look for Canadian Sirocco products.

Safety Building, Dayton, Ohio. Owner: City of Dayton. Associated Architects: Harry I. Schenck; Lorenz & Williams; Freeman A. Pretzinger. Consulting Engineers: Schweiger, Heapy & Associates. General Contractors: Frank Messer & Sons, Inc. Mechanical Contractors: Huffman & Wolfe Company.

AMERICAN BLOWER

Division of AMERICAN-Standard

Air conditioning equipment for every business

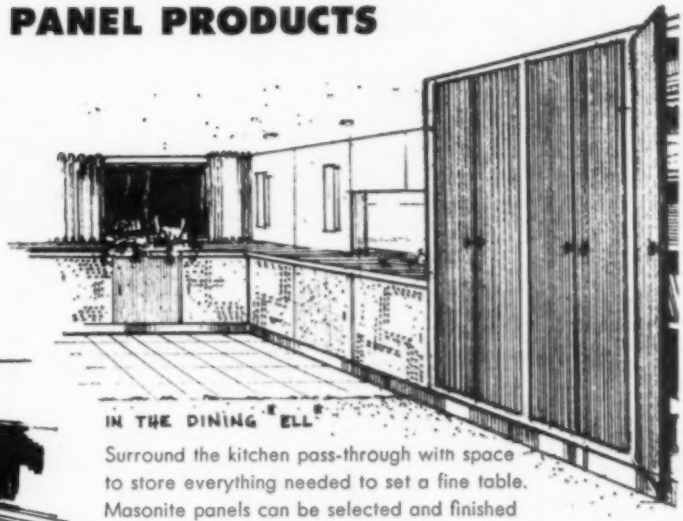


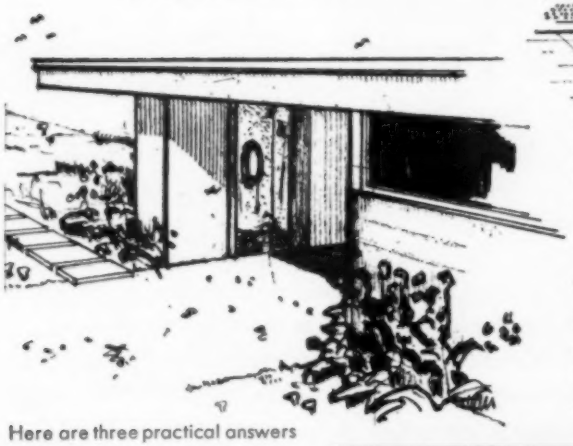
PROJECT NO. 5607-4 BY
RONALD L. DIRSMITH, A.I.A.

"INTEGRATED STORAGE" .... EASY TO PLAN WITH
MASONITE® PANEL PRODUCTS

THE FAMILY ROOM

A pleasing combination of textured, grooved and Peg-Board® panels adds so much to the charm of the capacious storage wall. Masonite offers a welcome variety of grainless panels for both above- and below-grade installations.





IN THE DINING "ELL"

Surround the kitchen pass-through with space to store everything needed to set a fine table. Masonite panels can be selected and finished to carry out 'most any theme.

OUTDOOR STORAGE

Neat, accessible and an asset to appearance. An integral part of the elevation is this storage wall for lawn and garden tools, play equipment and such. Masonite exterior panels defy the weather!

Here are three practical answers to every home owner's plea for more storage space—thanks to the variety and adaptability of Masonite's panel products. Choose among 44 types, textures and thicknesses. See Sweet's A.I.A. file No. 23-L or send the coupon.

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Please send me copy of your "Guide for Architects."

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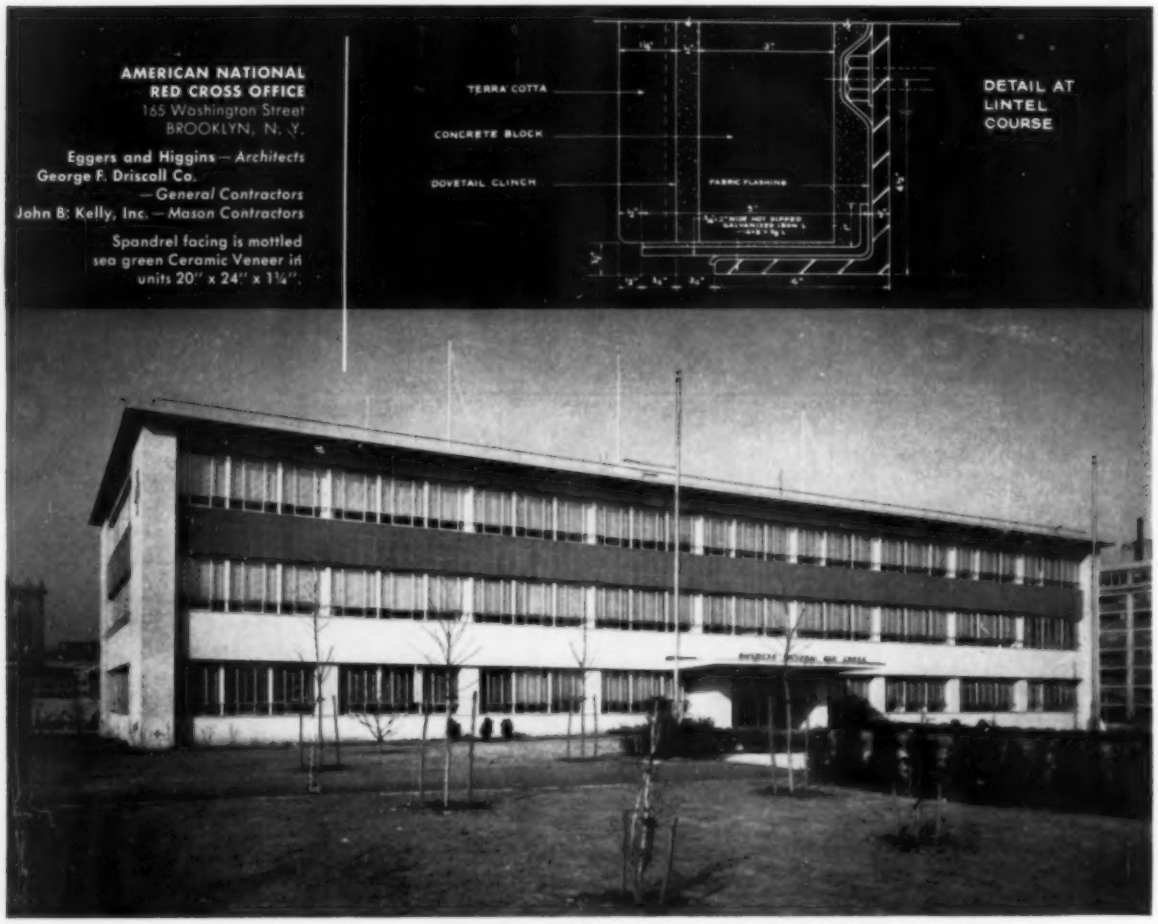
City.....State.....
Zone.....County.....



How to add color to the office buildings now on your boards

FEDERAL SEABOARD TERRA COTTA CORPORATION

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PLANT AT PERTH AMBOY, NEW JERSEY

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With versatile Ceramic Veneer, you can design for function, and achieve added beauty and character. It is custom-made to your specifications, in a wide range of colors and textures—for interiors or exteriors. Units can be large or small to combine impressively for harmony or contrast with all other building materials. You have the choice of plain surfaces, sculpture or decorative panels. Moreover, the richness and beauty can be retained indefinitely by simple soap-and-water washings. Whatever the buildings now on your boards—business, institutional or industrial—you'll find Ceramic Veneer compares advantageously for quality, appearance, price and permanence.

Construction detail, data, color samples, advice on preliminary sketches, will be furnished promptly without charge on Ceramic Veneer and Architectural Terra Cotta.

Institutions MAGAZINE

FIRST *Award*

FOR HIGHEST STANDARDS OF SANITATION AND FOR SUPERLATIVE ACHIEVEMENT IN STORING, HANDLING, PREPARING AND SERVING FOOD

ask "WHY ?" —and profit!

In Institution's 1956 Food Service Contest Winners,

HOBART MACHINES OUTSCORED ALL OTHER BRANDS COMBINED

PRODUCT	NUMBER OF AWARD KITCHENS USING THIS TYPE MACHINE	PERCENTAGE OF HOBART INSTALLATIONS IN AWARD CLASS	AVERAGE NUMBER OF HOBART MACHINES PER INSTALLATION
Cutters, Food	36	67%	1.29
Dishwashers	45	62%	1.43
Glasswashers	32	72%	1.26
Mixers	41	95%	2.53
Peelers	38	61%	2.00
Saws, Meat	17	53%	1.00
Slicers	38	74%	1.39
Tenderizers, Meat	10	50%	1.20

45 Food Service establishments received awards

Trademark of Quality for over 55 years

Hobart machines

The World's Largest Manufacturer of Food, Kitchen and Dishwashing Machines

Ask why—in eight machine categories, Hobart, with 50 to 95% of the totals, surpassed all other brands combined. Ask why architects and kitchen designers—kitchen managers, stewards and chefs—so prefer Hobart quality and superior performance backed by the greatest name and guarantee in the food, kitchen and dishwashing machine industry.

Ask yourself—how can you better serve your client than by specifying from the widest line with the greatest range of sizes and capacities, all available from a single, convenient source? Ask—get your Hobart literature—and your clients will profit for years to come. **The Hobart Manufacturing Company, Troy, Ohio.**

...why settle for anything less?

Specify

FRY ROOFING *with* 20-YEAR full value* BOND

FRY 20-YEAR FULL VALUE BONDED ROOFING WAS SPECIFIED FOR THIS UNIT OF THE CALUMET INDUSTRIAL DISTRICT, CHICAGO.

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Lundstrum and Skubic

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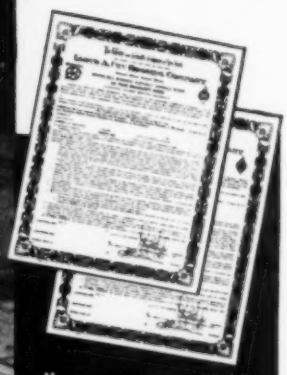

* A bond that insures payment for roofing materials only, or for any amount less than cost of materials PLUS labor, in the event of roof failure, is called a "penal sum" bond. Fry Roofing is backed by FULL VALUE bonds, covering cost of roofing materials AND their application, under conditions specified in each bond.

Everyone associated in the design, estimating and construction of a building should realize the vast difference in roofing bonds.

Awareness of the importance of the roof itself, we perhaps may take for granted. Without a good roof, everything in the home, store, warehouse, institution, or commercial or industrial building—even the building itself—may be seriously damaged. Few will deny that a good roof is essential. And most architects, engineers, estimators and contractors know that a 20-Year Bonded roof actually COSTS LESS per year of service.

But what many do not know is, the usual roof bond covers only the cost of materials, or some arbitrary amount substantially less than the actual cost of replacement, in the event of roof failure. Fry—world's largest manufacturer of asphalt roofing and allied products—backs its roofing with a FULL VALUE bond covering cost of materials AND labor in the event of specified roof failure.

Therefore, for the protection of those who depend on your judgment, specify Fry FULL VALUE Bonded Roofing—built-up roofing or asphalt shingle roofing—full value bonded for 10, 15 or 20 years. For condensed specifications, see your Sweet's file—for full details and specimen Bond, write Fry today.

See Sweet's 1957 Industrial Construction File: 4a/Fr

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19 Roofing Plants Strategically Located Coast-to-Coast

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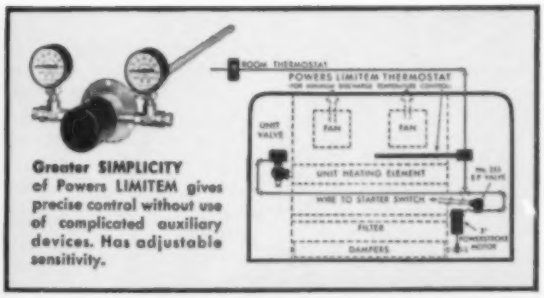

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UTMOST COMFORT and trouble-free service results from Powers Unit Ventilator Control.

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Give more accurate control
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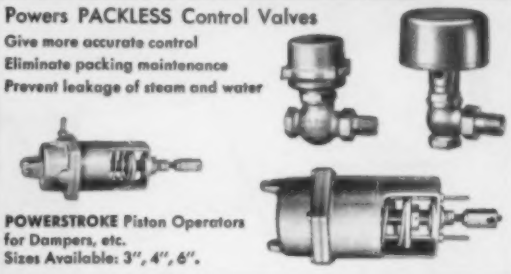

POWERSTROKE Piston Operators for Dampers, etc.
Sizes Available: 3", 4", 6".

POWERS Control Eliminates OVER-heated Classrooms and Cuts the Cost of Comfort with Greater Economy

Lowest Maintenance and Repair Cost and 15 to 40 years of dependable control are often reported by users

The superior year after year performance of Powers QUALITY control has been time tested and proved in thousands of schools and colleges since 1891.

When you have a temperature control problem for a new school or an existing building, check it over with an experienced Powers engineer. His suggestions may be helpful in cutting the cost of thermal comfort.

Selecting the right type of control pays big dividends in greater comfort, fuel economy and more efficient operation of heating and ventilating equipment. To make sure you get the best for your school specify and install Powers.

FLOWRITE Diaphragm Control Valve

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65 Years of Automatic Temperature and Humidity Control (c72)

Lower over-all costs, availability of materials, and flexibility of design are cited by Hausner & Macsai, Architects and Engineers, as major considerations in their selection of *reinforced concrete* for this new luxury apartment for Chicago's Lake Shore Drive. Their imaginative treatment of reinforced concrete is dramatically demonstrated in the soaring lines and curved design.

On many other important apartment buildings and public housing projects from coast to coast, reinforced concrete is also providing better structures for less money. It is a flexible medium, inherently firesafe, and highly resistant to wind, shock, and quake. On your *next* job . . . design for reinforced concrete.

REINFORCED CONCRETE

provides flexibility of design for this curved luxury apartment

New quarter-circle, twenty-four story, reinforced concrete apartment for Chicago's fashionable Lake Shore Drive.

Owners: John J. Mack * Raymond Sher *

Architect: Hausner & Macsai *

Structural Engineer: Paul Rogers & Associates *

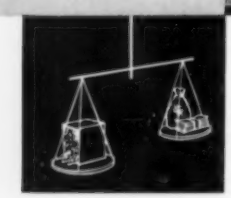
Mechanical Engineer: William Goodman *

General Contractor: Crane Construction Co. *

* Chicago, Illinois

Compare . . .

YOU'LL SAVE WITH REINFORCED CONCRETE



CONCRETE REINFORCING STEEL INSTITUTE

38 South Dearborn Street • Chicago 3, Illinois

Here's the newest idea for your bathrooms

Hall-Mack's new electric Warm-Dri towel rack strikes a bright note in bathroom comfort and convenience...with special appeal to the "lady of the house". It's a convenient and very useful fixture that keeps towels, lingerie, nylons—other items—dry and pleasantly warm. Warm-Dri heats quickly and safely, it can't burn or scorch the most delicate of fabrics. A wonderful luxury for new or remodeled bathrooms. Hall-Mack's Warm-Dri towel rack is an item that can be incorporated in *all* your bathroom plans—and recommended with confidence.

Warm-Dri is another *original* accessory by Hall-Mack—the best known name in bathroom accessories. When you recommend Hall-Mack you can always depend on quality—and the most complete selection of bathroom accessories in a price range to fit *any* budget! Suggest Hall-Mack—always!

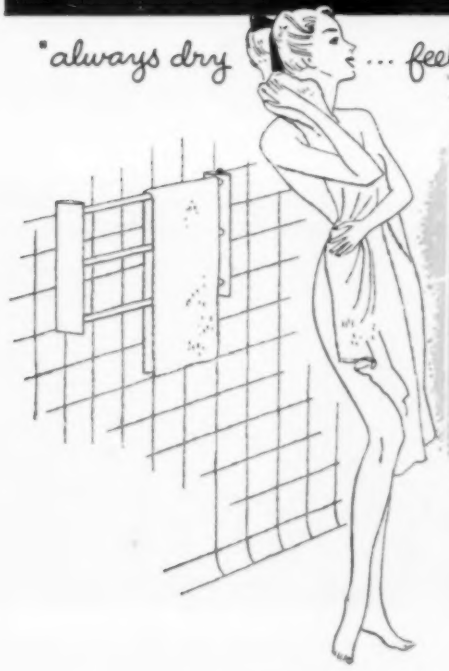
HALL-MACK®

electric

warm-dri

towel rack

"always dry ... feels soooo good when it's warm!"



No. 390 Red signal glows when 50 watt current is on. Bars and end brackets are heavily chromium plated on solid brass. Overall size—26" long, 13" high.

Sold by leading plumbing, tile and hardware dealers everywhere

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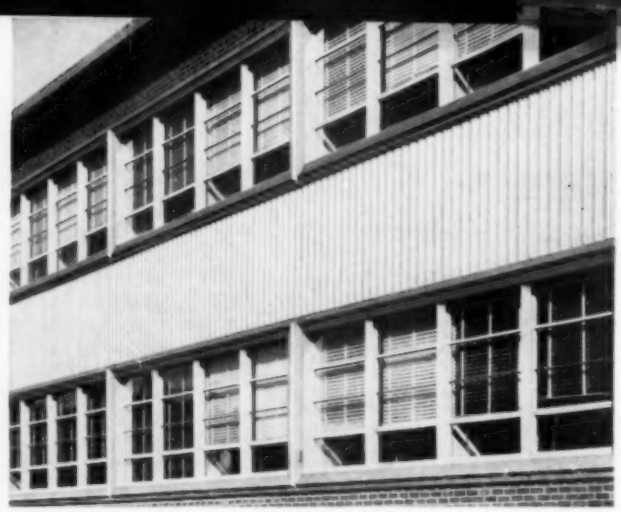
Charles M. and Edward Stotz
Pittsburgh, Pennsylvania

GENERAL CONTRACTORS:

Navarro Corporation
Pittsburgh, Pennsylvania

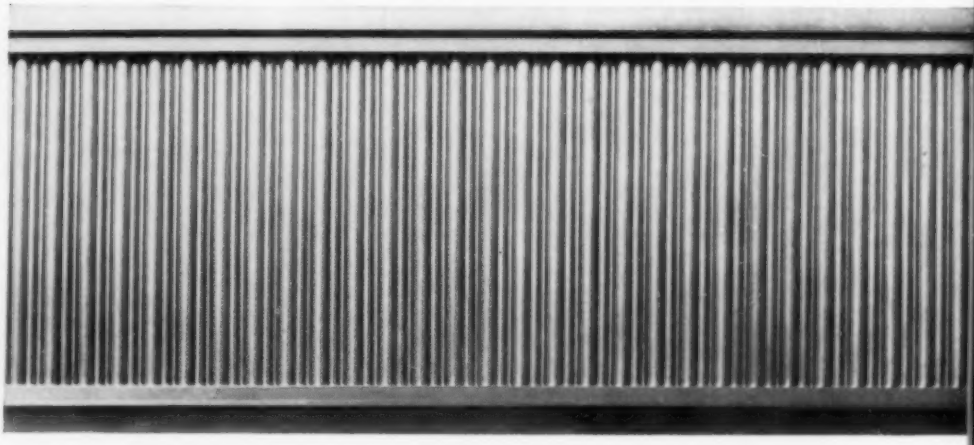
Ragnar Benson, Incorporated
Pittsburgh, Pennsylvania



View of stainless steel spandrel construction and window framing treatment crafted and erected by Overly on United States Steel's new Research Center.

Walls of Stainless Steel on new USS Research Center...

crafted by Overly

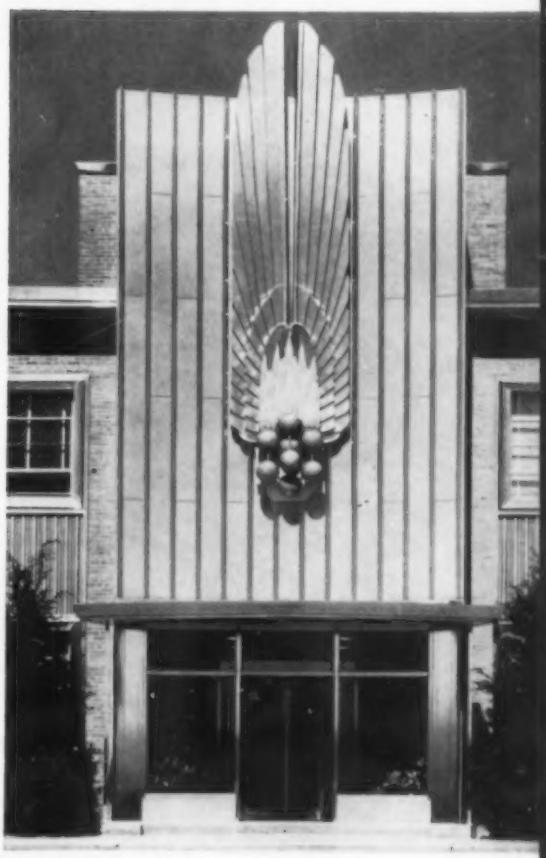


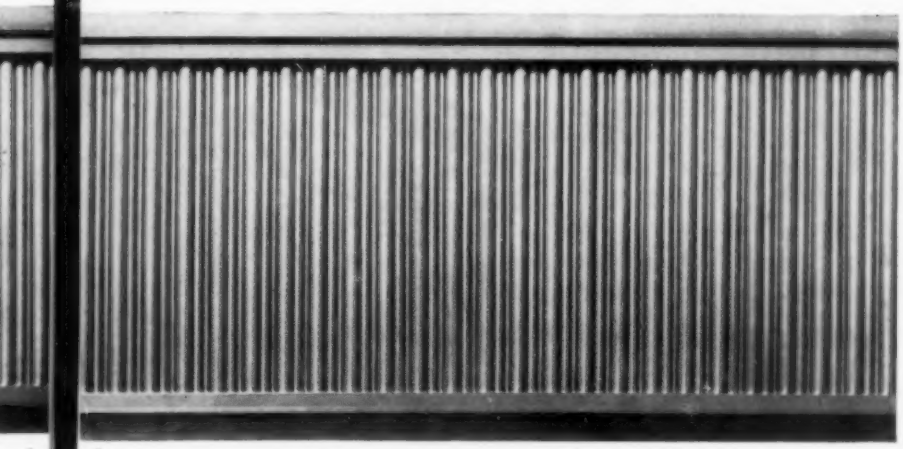
Above, giant U. S. Steel trademark crafted by Overly. Above right, unique fluted spandrel design, crafted by Overly, has no visible joints. Its No. 2D Special finish creates a pleasing contrast with the No. 4 finish used on all other exterior stainless work.

Above right, Building D—Edgar C. Bain Laboratory for Fundamental Research. Bottom, view of Building A—main laboratory in the Applied Research section.

Entrance to Applied Research Laboratory—spandrels, cornice, pylons and insignia were crafted and erected by Overly in enduring stainless steel.

Fundamental Research Building's entrance features a striking winged sculpture on turquoise blue background crafted by Overly. Application of flame to the iron atom symbolizes the steel making process. Wings represent the freedom of thought in research.





In Monroeville, Pennsylvania—just 30 minutes due east of Pittsburgh's Golden Triangle—the United States Steel Corporation has recently completed one of the most advanced, fully equipped research centers in the world. Its new facilities will permit U. S. Steel to intensify, coordinate and broaden its already vast research and development activities covering every aspect of the steel making process.

Overly is proud to have played a major role in bringing this brilliantly designed research center to completion by fabricating and erecting all exterior stainless steel work on two main buildings—the Edgar C. Bain Laboratory for Fundamental Research and the Applied Research Laboratory. Overly stainless work includes: fluted spandrels; window framing units; and all cornice and coping. Entrance construction too, including winged sculpture, "USS" insignia, marquee, cornice and pylons were crafted and erected by Overly.

Overly

MANUFACTURING COMPANY

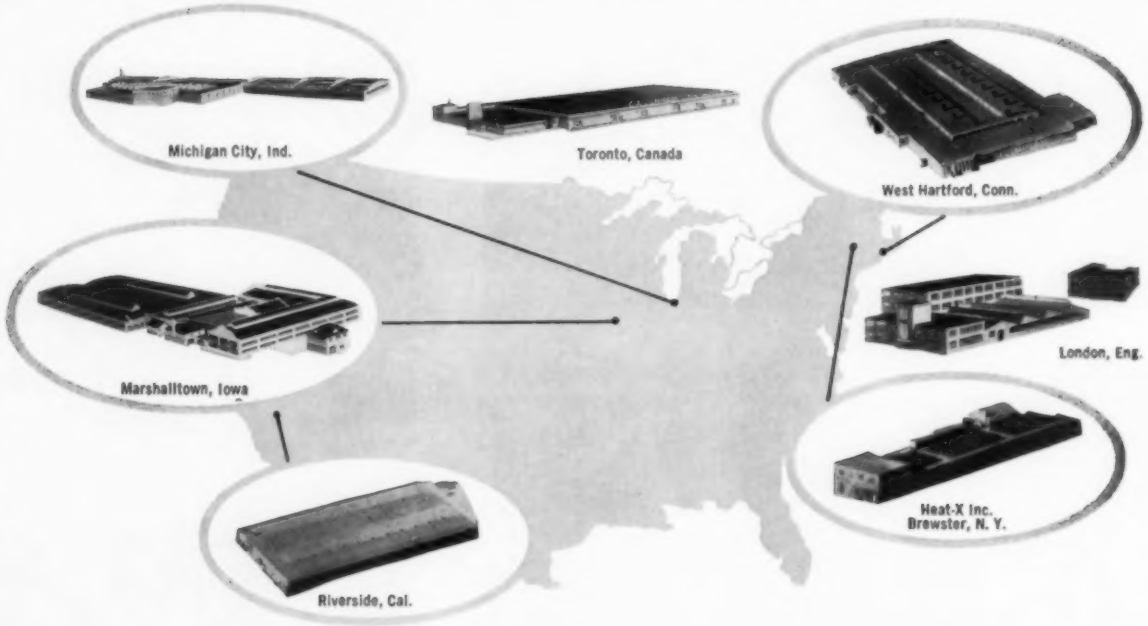
Greensburg, Pennsylvania • Los Angeles 39, California

METAL PRODUCTS SINCE 1898

BUSH

TEAMED WITH DUNHAM

FOR EVEN GREATER GROWTH



Heating, air conditioning and refrigeration products are flowing from the recently formed Dunham-Bush manufacturing facilities.

This "one-source" teaming of Dunham and Bush spells many advantages for architects, engineers, wholesalers and contractors.

A nationwide network of manufacturing plants and strategically located warehouses assures the "close-to-source" supply that permits faster delivery, lower freight costs. A substantially expanded force of sales engineers makes available on-the-spot engineering and application assistance. Greatly augmented resources and facilities permit continued research and development of new products to serve an expanding field.

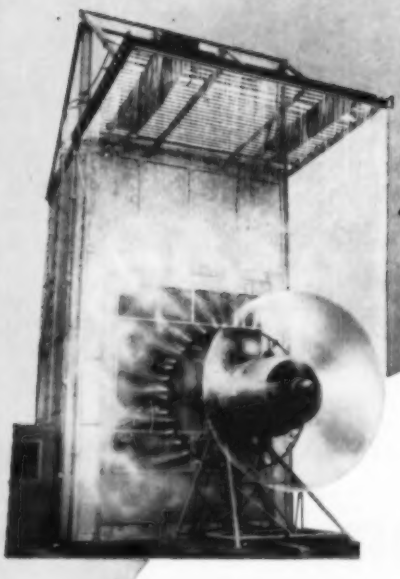
Dunham-Bush . . . *a single source, single responsibility* for heating, air conditioning and refrigeration . . . teamed to serve an industry's growing needs.

Dunham-Bush, Inc.

DUNHAM-BUSH

WEST HARTFORD 10 • CONNECTICUT • U. S. A.

AIR CONDITIONING, REFRIGERATION, HEATING PRODUCTS AND ACCESSORIES



MAN-MADE HURRICANES

prove weathertightness of curtain walls and windows by GENERAL BRONZE

From a steady drizzle to a driving rain with quick changing squalls of from 40 to 80 miles per hour . . . yes, even to the full force of a 120 m.p.h. hurricane—that's the weathertightness test all new curtain walls and windows are subjected to by General Bronze.

Here at General Bronze, nothing is left to chance. Every new design, every new product must prove its engineering soundness and its weathertightness under the most severe weather conditions imaginable. Not only are windows and wall panels tested for air and water infiltration but their deflection under varying wind pressures is also carefully measured and recorded.

Our static and dynamic weather-testing facilities at Garden City are considered by many architects, engineers and contractors to be the finest and most complete available anywhere. And that's why they all feel so confident when the specs call for "curtain walls and windows by General Bronze."

General Bronze has prepared a new booklet, "Static and Dynamic Weather Testing of Architectural Products," that explains with photos and diagrams how these tests are conducted. It is free, without obligation, to architects, engineers and contractors who write on their business letterhead. Address your request to Dept. PA-5610.

Another CURTAIN WALL by GENERAL BRONZE
Connecticut General Life Insurance Co., Bloomfield, Conn.
Architects: Skidmore, Owings & Merrill
Contractor: Turner Construction Co.

GENERAL BRONZE CORPORATION • GARDEN CITY, N. Y.

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. ALWINTITE DIVISION—Stock-size Aluminum Windows
BRACH MFG. CO. DIVISION—Multel, T. V., Radio and Electronic Equipment. STEEL WELDMENTS, INC. DIVISION—Custom fabrication in steel and iron.

Another

Area of Condensation

banished forever!

THESE UNIQUE ROOFING PANELS DRY THEMSELVES BY WEATHER AIR VENTILATION

In the last large area of condensation — in and under the roofing — vapor barriers have failed to give anything but a partial answer. Wilson Air-cor Roof Decking now gives the final, complete answer with a scientific method of removing moisture from the decking itself — *by weather air ventilation.*

Architects and builders are no longer limited — by local conditions of climate — in their selection of the finished roofing material. For any type of structure and any pitch of roof, Wilson Air-cor provides the dependable roof decking.

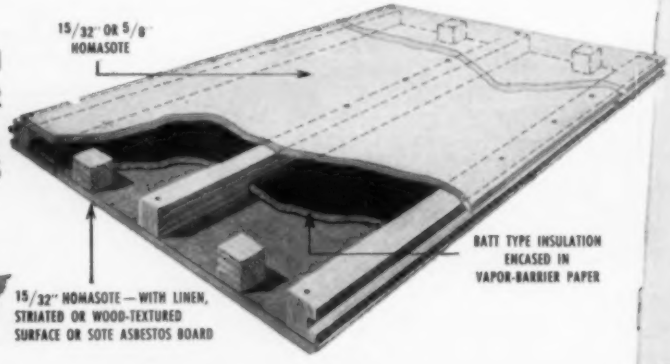
126 days of testing by the Engineering Research Department of a leading State University demonstrated "the feasibility of actually drying a wet roof of the Air-cor type by weather air ventilation." The published report recognizes the impracticality of a perfect vapor barrier. With Wilson Air-cor, there is no need for a perfect barrier. The revolutionary principle of ventilation embodied in Wilson Air-cor Roof Decking overcomes the severest conditions of humidity and temperature. Extensive research and actual use prove that Wilson Air-cor makes condensation a problem of the past.

The description of this remarkable product in the Homasote Handbook begins: "The panel consists of 2 x 2 wood members 12" o.c. nailed and glued between two pieces of $^{15}/_{32}$" Homasote. On the lower inside of the Wilson Air-cor Panel there is $^{3}/_{4}$" of batt type insulation, with a vapor barrier on the bottom side, and a ventilated paper on the top side. At each end there are two small wood blocks to support the Homasote. With only these two small blocks, there is a width of 16" at each end for air to flow from panel to panel." Air enters at the roof edges—where a rake mold is nailed on $^{3}/_{8}$" blocks over screen wire—and insect-free air circulates the length of the roofing.

The Handbook continues with specifications, test data, and building instructions. For example, you may be surprised to learn that the problem of ridge and filler has been taken care of with the Wilson Air-cor Ridge Panel. You will be happy to find that Wilson Air-cor is actually a finished ceiling—with three beautiful under-surfaces to choose from (or even Sote Asbestos Board). Accurate tables and complete diagrams give the *right* information, from width of ridge required for any number of courses, even to pre-drilled nail holes — just one more example of the **know-how** of the Homasote Handbook.

The new 68-page Homasote Handbook has the right answers to 99 other building problems—answers backed by 46 years' experience in the making of quality materials. We are proud of this book, and have confidence in its basic value to every architect, builder, and dealer. May we send you a copy? Kindly address Department K-9.

WILSON AIR-COR ROOFING PANELS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*Interior Door Hinges equipped with permanently lubricated, non-detachable ball bearings.
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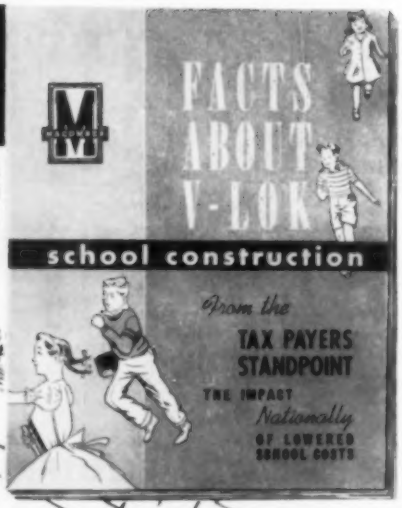

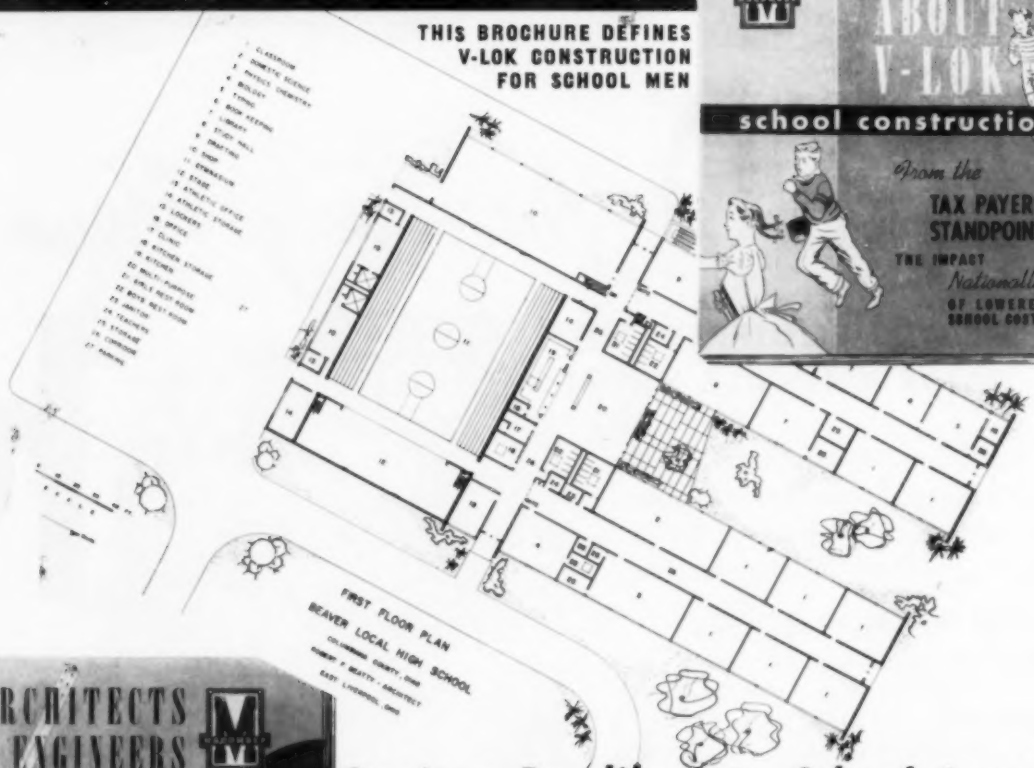

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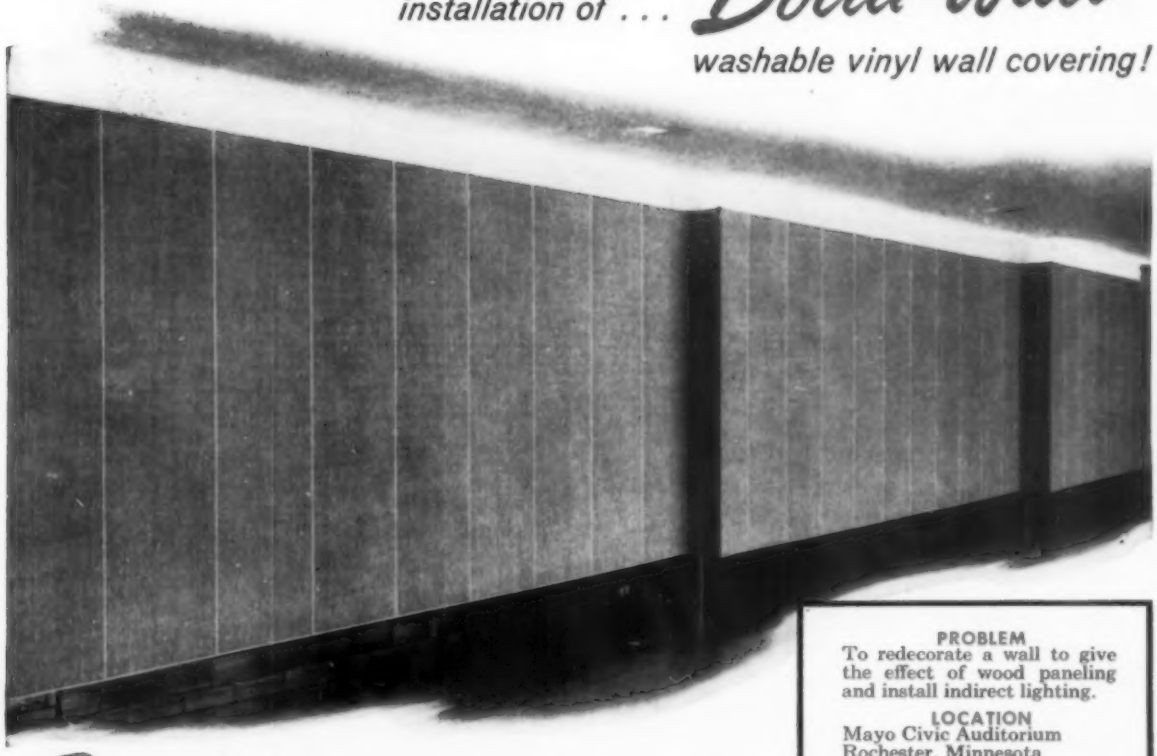

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PROBLEM
To redecorate a wall to give the effect of wood paneling and install indirect lighting.

LOCATION
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Rochester, Minnesota

SOLUTION
Vertical panels of ¾″ plywood 2 ft. x 8 ft. were mounted sufficient distance from wall to clear the vertical pilasters and allow space for indirect lighting behind. Space above and below, at ceiling and floor. About ½″ space between panels. *Bamboo* Bolta-Wall cut to size and applied to face of panels, with edges tucked into spaces between. ½″ wood molding inserted and nailed, to cover space between the panels, painted white, to give effect of vertical paneling.

ARCHITECTS
Ellerbe & Company, Architectural Engineers, Rochester, Minnesota.

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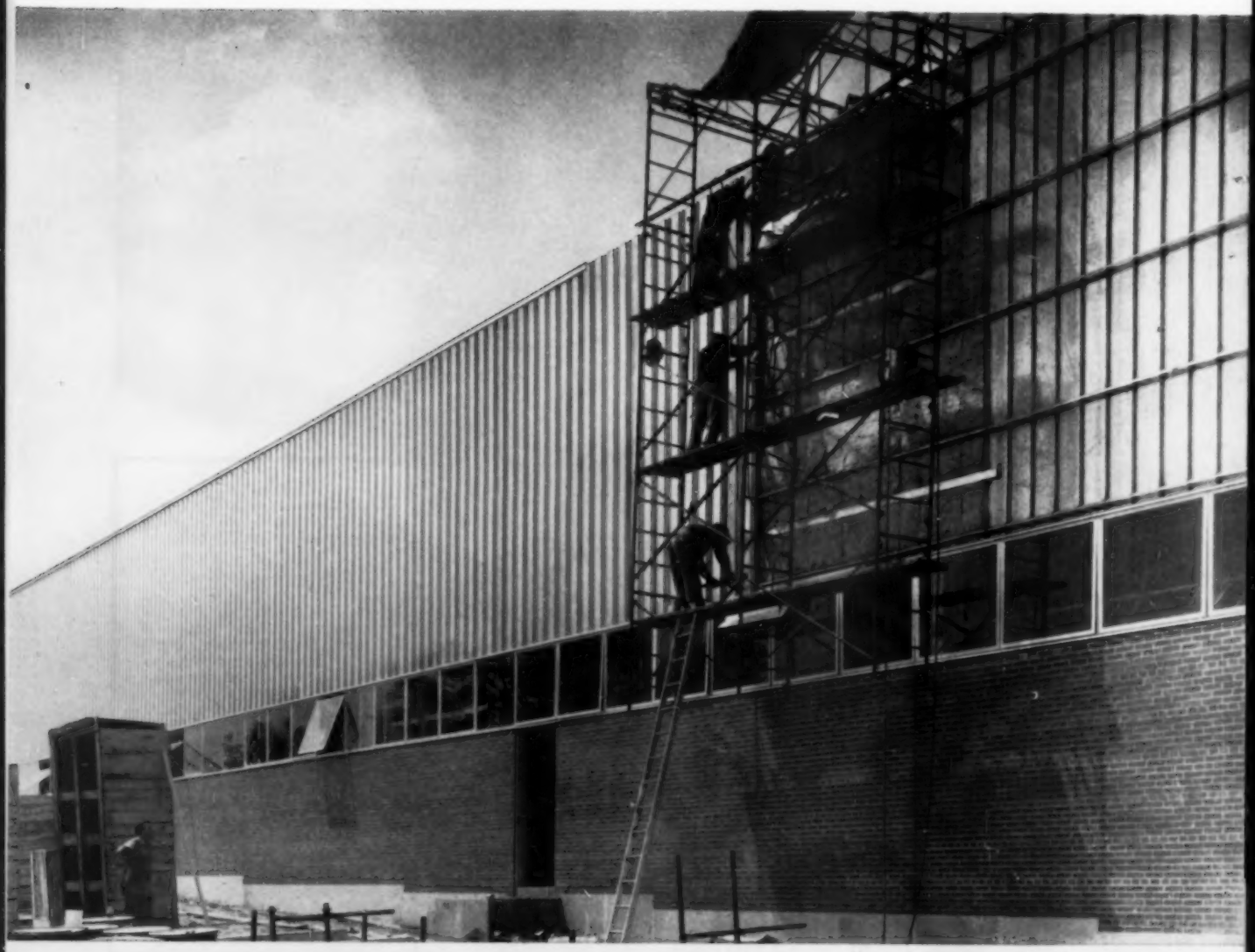
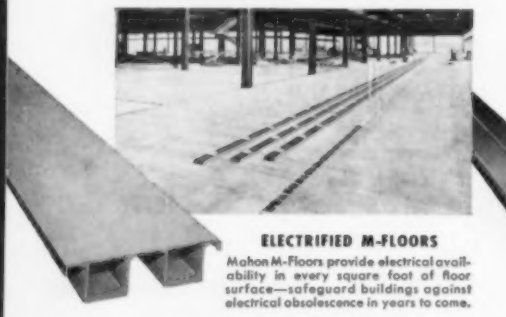


Mahon Insulated Metal Wall with Fluted Aluminum Exterior Plates being erected on the Body Engineering and Research Building, Ford Research and Engineering Center, Dearborn, Michigan. Voorheis Walker, Smith & Smith, Architects. Bryant & Detwiler Co., Gen. Contrs.



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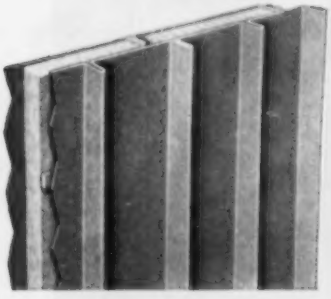
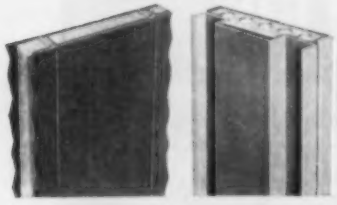
FIELD CONSTRUCTED



MAHON RIBBED WALL
FIELD CONSTRUCTED



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Costwise, Insulated Metal Walls save up to one-half the cost of masonry construction in some types of buildings. Erection is fast . . . buildings can be quickly enclosed with metal curtain walls regardless of weather. The light weight permits further cumulative savings throughout the structural frame and foundation of a building.

From an appearance standpoint, bright metal—aluminum or stainless steel—in combination with brick or other materials produces attractive and distinctive exteriors . . . design effects in exterior treatment are virtually unlimited.

Mahon Insulated Metal Walls are available in the three exterior patterns shown at left . . . in the "Fluted Wall" and the "Ribbed Wall", vertical joints are invisible—symmetry of pattern is continuous and uninterrupted across the wall surface . . . and both of these walls can be field-constructed up to sixty feet in height without a horizontal joint—two features of Mahon walls which are extremely important in powerhouses and other types of buildings where high expanses of unbroken wall surface are common. These two features were engineered into Mahon walls to give you a finer appearing job without unsightly joints—you'll want these "better look" features in the wall you select for your next building.

Comparison will convince you that Mahon Insulated Metal Walls and Mahon Erection Service will give you a better wall, and a finer appearing wall, on any type of building.

See Sweet's Files for information, or write for Catalog W-57.

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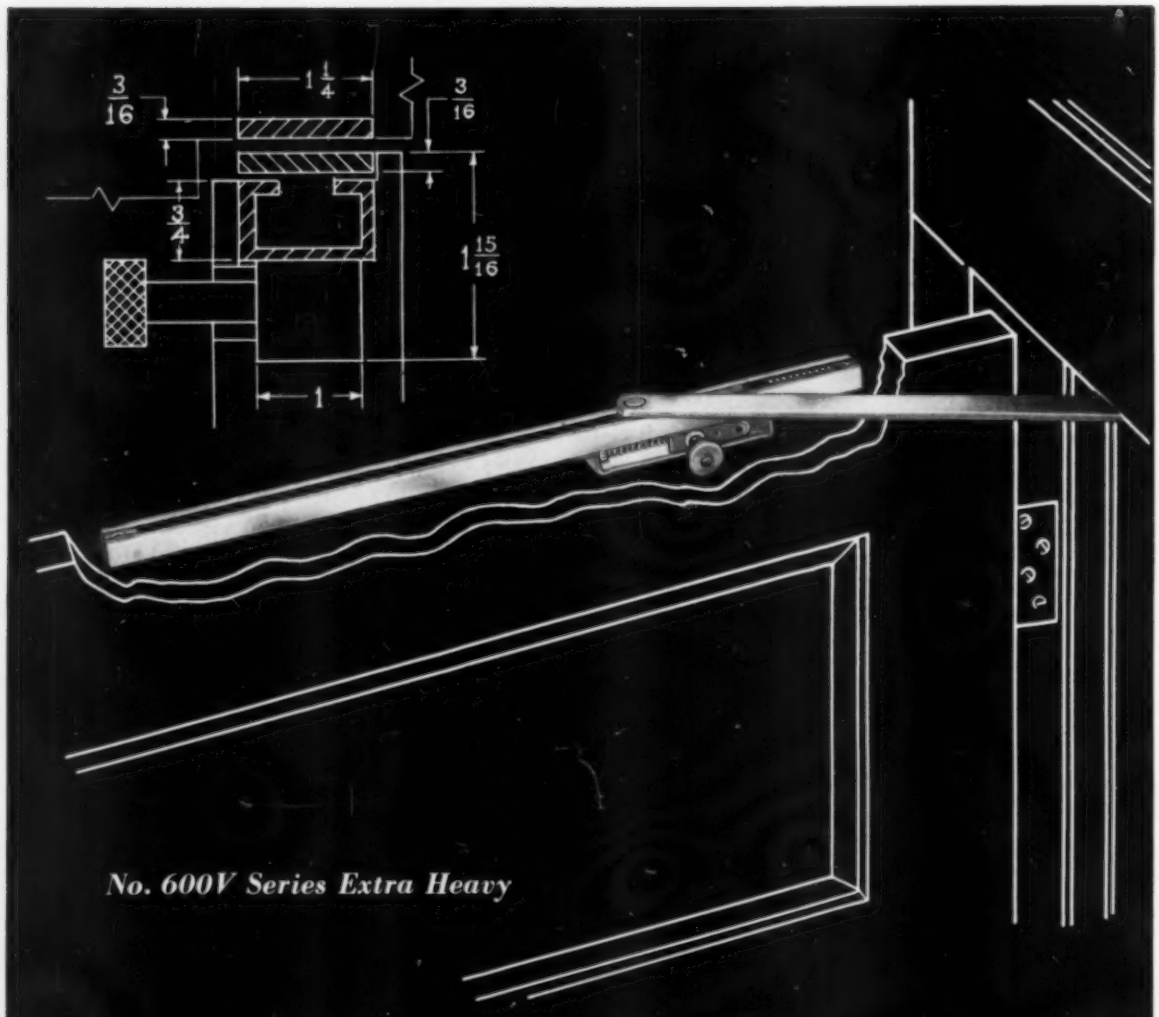

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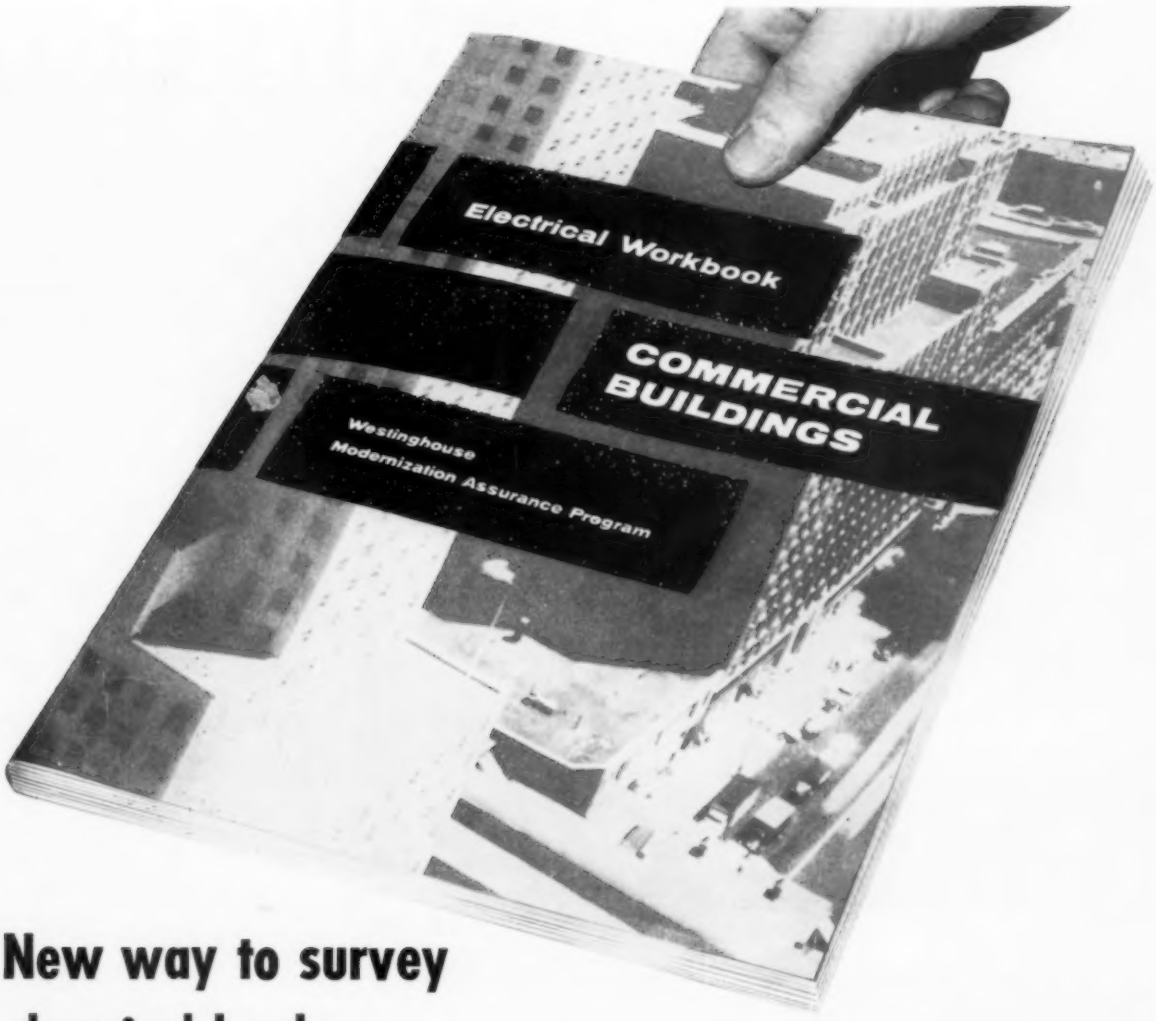

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Forms to record daily power peaks, equipment capacity, and all other factors regarding complete electrical system analysis are provided. And forecast forms for tenants and the building's own projected needs are included. Starting with the metering of panelboards right on up to the definite 1-2-3 steps in the modernization planning guide you will find this the easiest to use, most complete workbook of its kind.

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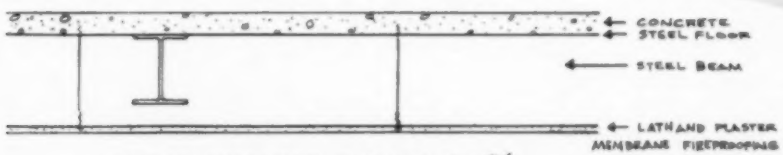
lowers costs, speeds construction of Fairview Park Hospital

An official of The George A. Fuller Company, builders of the new Fairview Park Hospital, Cleveland, Ohio, says:

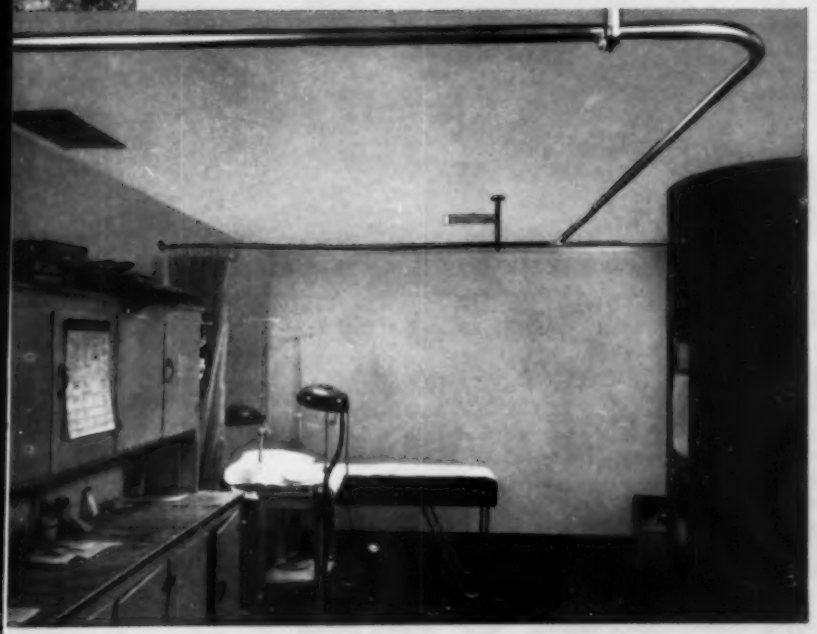
"The specifications by the architects for the Fairview Park Hospital job resulted in significant cost savings through the use of over 14,000 square yards of suspended lath and lightweight plaster ceiling. This made unnecessary concrete encasement of structural steel members ...substantially reduced building weight...reduced structural steel tonnage...reduced the size of footings and foundations...cut construction time by eliminating formwork.

"The suspended ceiling provided a plenum space for concealed ducts above the ceiling—very important in hospital construction. Together with membrane fireproofing of various columns, this ceiling gave the required fire protection.

"Plaster's smooth monolithic surface, uninterrupted by exposed beam fireproofing, provided an easy-to-clean surface for maximum sanitation."



TOTAL DEADLOAD WEIGHT 36#/#



Mr. John Smallwood, right, of the Smallwood Plaster Company, presents Certified Craftsmanship Certificate covering Fairview Park Hospital project to Mr. George R. Harris, of Garfield, Harris, Robinson & Shafer, architects.

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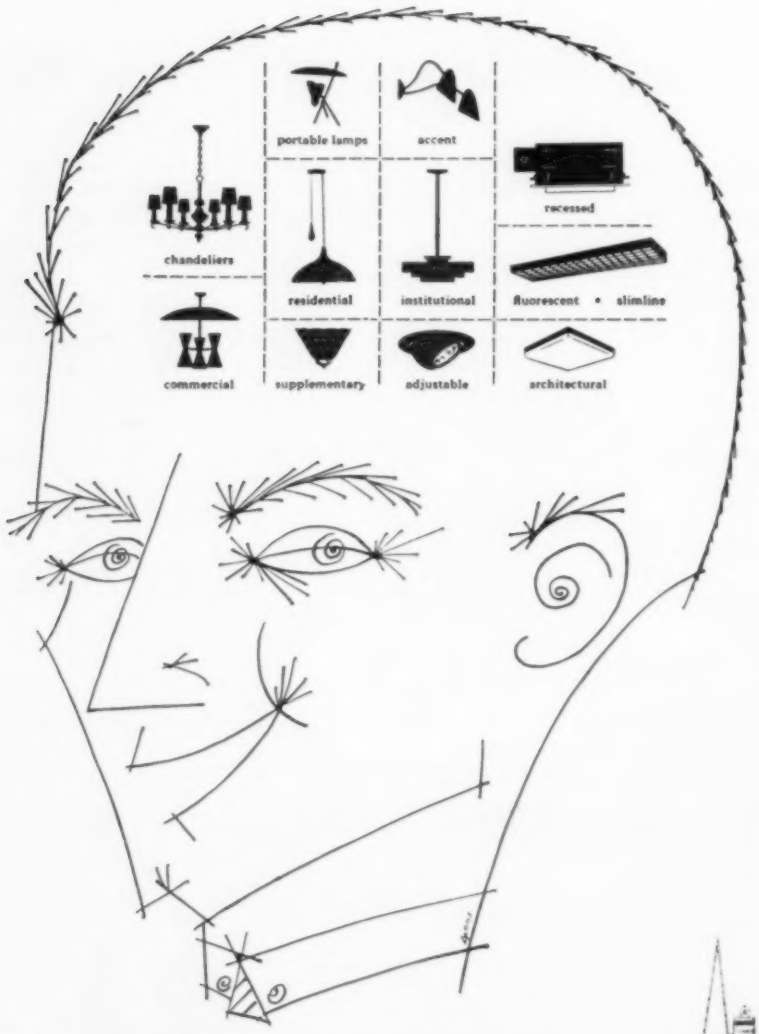

When the
man with a well-ordered mind
thinks of Churches and Temples

In his mind's eye he sees an inspiring picture . . . a sanctified atmosphere, endowed with the spirituality befitting a hallowed house of worship. And when he thinks of the *lighting* to help him achieve this effect, he calls Litecraft. Your Litecraft Field Engineer — and your Litecraft Distributor's Lighting Specialist — will help you work out an imaginative, efficient and economical lighting plan for *your* next church or temple project. What's more, they're equipped to help you with special designs to meet your individual requirements. Call or write for a complete file of Litecraft church and temple lighting designs and specification data:

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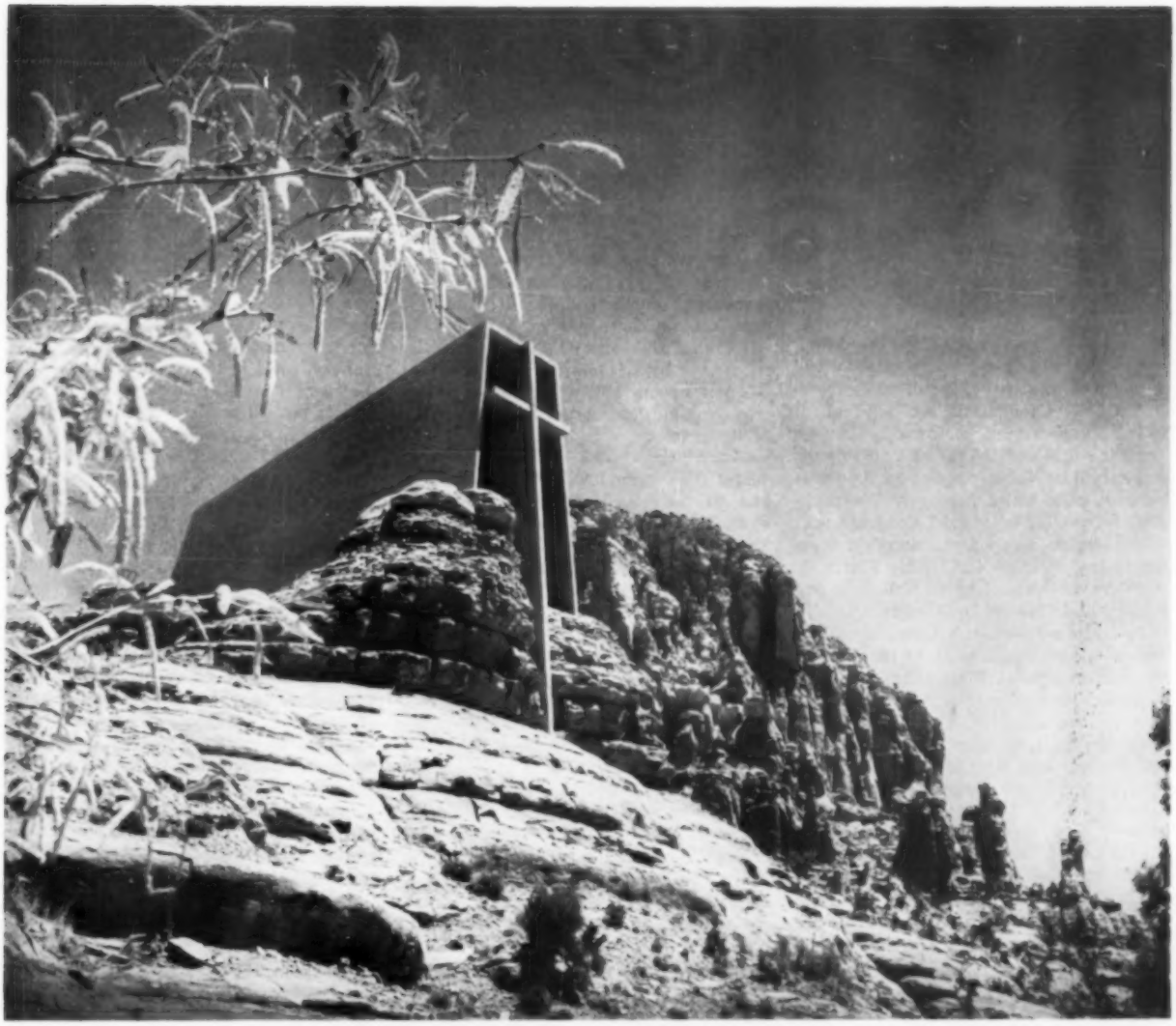


CHAPEL CROWNS ARIZONA EMINENCE

SEDONA, ARIZ., Sept. 20—An Award Citation winner in P/A's First Annual Design Awards Program (1954), this remarkable Chapel, donated to the Roman Catholic Church by Marguerite Staude in memory of her parents, is fast becoming a tourist mecca. Located 150 feet above the Verde River Valley, the structure is a concrete shell 12 in. thick, its ends glazed with smoke-colored, glare-reducing glass. The great 90-ft cross plus projecting side walls produce a louver effect that screens out direct sun until mid-afternoon. From a car turn-around below, a concrete ramp curves up to the Chapel. Anshen & Allen, Architects; Robert D. Dewell, Consulting Engineer. *Photos: Julius Shulman*

NEW REGIME FOR CIAM

Any six people who attended the tenth congress of CIAM (held at Dubrovnik, Yugoslavia, from August 5-13, 1956) would probably give six very different versions of what took place there.

A CIAM Congress is not only called, but is, a "working congress." Usually from the first day the members divide up into small working parties, or Commissions, each of which has to produce a report before the end of the Congress. Exhibits are shown in a standardized form known as a Grille (or Grid). The comparative analysis of these Grilles is one of the chief tasks of the Congress.

On this occasion the Congress theme was the inter-relationship of elements of the human habitat. Four of the Congress working parties concentrated upon extracting material of a general nature from the information presented in nearly 40 Grilles from over 20 CIAM groups. The other three commissions devoted themselves to the study of different aspects of a book to be brought out by CIAM called, in French, "La Charte de l'Habitat" and in English, "The Human Habitat: First Propositions."

CIAM X had yet another task, which was to decide upon the future organization of CIAM, in view of the retirement from active participation of its founder members, which include the President, J. L. Sert, Vice-Presidents, Le Corbusier, Walter Gropius, and C. van Eesteren, and the Secretary General, S. Giedion. Their impending retirement had been announced in 1953, and, since that date, an active group of younger members, under the general leadership of J. Bakema of The Netherlands, has been operating under the name of Team X. After a full day of discussion, during which all working parties were suspended, it was decided, in effect, that the work of CIAM should be taken over by an enlarged version of this younger group, and a committee of reorganization was set up, consisting of 4 of its members, plus 3 others who have worked closely with CIAM for many years. This committee will report to a general meeting of group delegates (called a CIRPAC) early in the New Year and, if their report is approved, the new regime will then come into operation.

The conditions under which these results were achieved were fantastic. Yugoslavia is a country of dramatic landscapes and friendly faces. The long training of its peoples in retaining personal independence, under the rules of various foreign powers, has resulted in a very casual acceptance of its present form of political dictatorship, which is characterized by a tremendous amount of detailed paper work upon matters of small concern, and sudden arbitrary changes of decision upon matters of greater moment. After months of preparation, the Congress, which had been invited by the Yugoslav government in the first place, found upon arrival at Dubrovnik on the evening of August 5th, that the hotel in which a large number of its members had been scheduled to stay had been suddenly commandeered for some other purpose, as had also the Congress meeting place, the Palazzo Sorgo. This news came on top of two days spent in a boat with under 100 berths, that had picked up some 1000 passengers during its journey from Venice to Dubrovnik.

Luckily the retiring president, J. L. Sert, knows how to laugh, and he set the tone of the Congress. Laughter was needed, for it was decided to hold all Congress meetings at the Modern Art Gallery, some 8 kms (5 miles) away, on the far side of Dubrovnik from the hotels; but all meals had to be taken in the hotels. As a result, transportation—one way and another—consumed at least three hours a day, and the most vivid recollection of the Congress in the minds of many members will be tantalyzing glimpses from the bus of the fabulous walled city of Dubrovnik and the blue Adriatic coastline.

Everyone snatched some hours to visit Dubrovnik: a perfect Renaissance City still living; a city from which vehicles are excluded, where people walk with a proud freedom between great stone walls of exquisite masonry, and the dignified reticence of the town houses of wealthy merchants. Dubrovnik is more "perfect" than Venice could ever be, for it had the fortune to be rebuilt almost completely at one moment, after a devastating earthquake, at a time of great wealth and power—and of high civilization.

JAQUELINE TYRWHITT
R.M.S. Caronia

ANNOUNCES PREFAB CERAMIC-VENEER CURTAIN-WALL PANEL

WASHINGTON, D. C., Sept. 19—"For the first time in the building industry, the time-proven advantages of high-fired glazed-masonry facing material are now made available for curtain-wall construction." So stated Albert E. Barnes, Chairman of the Architecural Terra Cotta Institute's Panel Development Committee and Manager of Architectural Products Promotion, Gladding, McBean & Co., San Francisco, at a two-day Modern Masonry Conference conducted here by the Building Research Institute.

Called CV Panelwall (prefabricated ceramic-veneer curtain wall), these units are of two general types. The first, designated as a *curtain-wall panel* and fabricated with lightweight-aggregate concrete backing, is 3" to 5" thick—depending on fire resistance requirements—and will be available in units up to 30 sq ft. Its ceramic facing unit, approximately 1" thick, is a de-aired, extruded, precisely-finished clay body with an impervious glazed finish. The lightweight aggregate used in the back-up is of expanded-shale type and was selected to obtain concrete of both lightest weight and greatest strength. Vermiculite concrete can be added to provide required fire resistance or additional insulation. Reinforcing steel is a heavy, galvanized, welded-steel mesh with reinforcing bars or light channels used to supply more reinforcing. There is a permanent bond between the ceramic veneer facing and the concrete backing. According to recent tests made at the Ohio State University Research Laboratory, the fire resistance of the basic 3" thick panel is 1½ hours.

Joint strips ½" deep, used in casting the ceramic-veneer panel, are later removed so that the finished panel can be pointed with a dense mortar and tooled to provide water repellance. Since there are no through joints in the panel itself, the only seal required to prevent infiltration of rain is around the perimeter of the panel where it adjoins a metal mullion or other building element. These joints are designed of polyvinyl-chloride plastic. Due to minimum temperature movement of the panel itself, the adjusted compression against the polyvinyl gasket remains well within the modulus of elasticity of the material.

Regarding thermal conductivity, it was pointed out that in addition to the basic U-factor of the masonry panel—depending on thickness and back-up material

Macy's Opens Doors In 2 New Shopping Centers

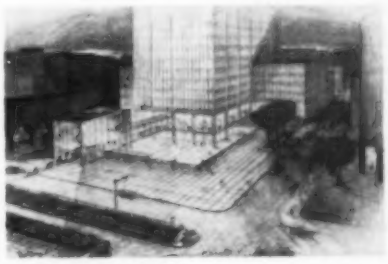
Photo: Morley Baer

Two recently opened Macy's department stores—one in San Jose, California *(right)*; the other, at Roosevelt Field, New York—are the first completed units of new shopping centers.

The one in California, called Valley Fair, was designed by Victor Gruen & Associates, Architects. Over-all design of the Roosevelt Field Shopping Center was handled by I. M. Pei & Associates. Skidmore, Owings & Merrill were Architects for the Macy's store there—with interiors designed by Meyer Katzman, Architect (basement); Amos Parrish & Co., Inc., Designers (street floor); and Copeland, Novak & Israel, Architects (second floor).

Astor To Build Park Avenue Skyscraper

NEW YORK, N. Y., Sept. 18—Announced here today by Vincent Astor were plans for Astor Plaza, a $75,000,000 office-building development for Park Avenue's new commercial Gold Coast—Lever House just across the Avenue; the House of Seagram arising immediately to the south. The project, to occupy the full block between 53rd and 54th Streets; Park and Lexington Avenues, will consist of a 46-story skyscraper set well back from Park Avenue and connected to it by an enclosed bridgeway leading across a sunken, landscaped garden to a two-story glass pavilion at the front, to be used for tenant displays. Roof of the skyscraper of metal and glass, designed by Carson & Lundin, Architects, will be a helicopter landing platform. Shops, restaurants, and a bank will border the sunken garden; a sub-basement garage will accommodate 400 cars; and underground tunnels will connect Astor Plaza with both neighboring buildings and subways. Associated with Astor in financing the fully air-conditioned complex are William S. Paley and Frank Stanton.

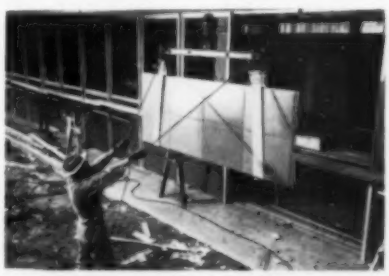


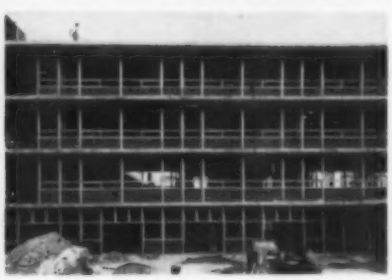
used—the panel has the additional benefit of heat lag: the recognized heat capacity of a masonry wall when intermittent heat loads, such as afternoon sun, are the main consideration.

Panels of this type were first installed in the Methodist Hospital at Arcadia, California, designed by Neptune & Thomas, Architects (*see photos at right and November 1955 P/A*).

Work is now proceeding on the development of a much thinner panel, approximately 1¾", for use in *window-wall construction.*

CV Panelwall, 9'-0" x 3'-3" and 3" thick, is hoisted into position (*upper left*); bolts are tightened and lifting eye is removed (*upper right*); joints at concrete deck are calked to ½" depth and joints of panel will be filled with pointing mortar and tooled (*near right*); four-story elevation of hospital shows installation of both 9'-0" and 4'-6" panels (*far right*). BURTON H. HOLMES





News Bulletins

• International competition for design of Enrico Fermi Memorial, cosponsored by The Chicago Joint Civic Committee of Italian Americans and Chicago Junior Association of Commerce and Industry, will close Feb. 1, 1957. For details write: John O. Merrill, 100 W. Monroe St., Chicago 3, Ill. . . . The Inc. Edwin Austin Abbey Scholarships for Mural Painting in U.S.A. will hold exhibition of mural designs by Walter Kelly Hood (Abbey Fellow of American Academy in Rome) at Architectural League, Pine Rm., 115 E. 40 St., Oct. 23-Nov. 2.

• For illegal copying and using without authority uncopyrighted building plans and specifications, Superior Court Jury in Los Angeles last month awarded damages of $50,000 to Bent H. Cardan, structural engineer and general contractor, whose construction job in West Hollywood was copied by another contractor.

• University of Michigan's College of Architecture and Design expects 350 architects and designers, largely alumni, to attend gala semicentennial on Oct. 24-25. . . . Admirers of Frank Lloyd Wright will honor him at $25-a-plate dinner at Hotel Sherman, Chicago, Oct. 17, as climax to three-day exhibit of his work. . . . Dedication ceremony of Titus Air Distribution Research and Development Laboratory, Waterloo, Iowa, Aug. 22, was opened by Don Titus, President.

• Architect Jean Driskel, Los Angeles, was elected president of Association of Women in Architecture at 1956 Minneapolis Convention.

• Seventh Annual National Homefurnishings Show, at New York City Coliseum, Aug. 25-Sept. 9, abounded in designer-decorator room settings, most of them lushly expressive of show's theme, "Elegance in the Modern Manner." Some new merchandise was shown, such as Mills-Denmark's "Arkitekt Collection" (bottom right). Under egis of American Rayon Institute, Edward J. Wormley designed all-purpose room, brilliant with yellows and pomegranate reds (bottom left). Decorator Bertha Schaefer's setting, in discreet mutations of blue (top right) was enriched with paintings, ceramics, and mosaics from her Gallery.

G. Barrows

• Museum of Modern Art, New York, has excited many with its first all-American textile exhibition, called "Textiles U. S. A.," Aug. 9-Nov. 4. One hundred and eighty-five examples of domestic fabric designs include industrial fabrics (mesh from radar targets, rayon tire cord); home furnishings fabrics (handwoven dried horsetails and cattails); dress fabrics (24-carat gold-coated acetate jersey). Organized by Arthur Drexler, Director of Museum's Department of Architecture and Design, with Greta Daniel, Associate Curator as Project Director, exhibition was designed by Bernard Rudofsky, who employed imaginative, original display techniques. Highlight: small fabric swatches tagged to stretched or draped fabrics carrying label: "Please touch." Photo (above) shows herculite-awninged terrace display of white-and-orange nylon Air Force parachutes. Entrance was marked by floor-to-ceiling ropes of polyethylene.

American Rayon Institute Inc.

Washington Report

by Frederick Gutheim

A zoning row of unprecedented dimensions has succeeded in raising fundamental questions about the kind of city Washington ought to be. Although these have received only local discussion, the fact that our capital is a national city, and the disenfranchisement of its citizens leaves Congress to attend to the work of local government, means that they desrve broader circulation. Indeed, since the issues are pretty typical of big cities everywhere, what is finally decided in Washington will reflect thinking elsewhere and influence what is done in other cities.

Thirty-five years ago Washington got its first zoning ordinance—drafted by Harlan Bartholomew, a St. Louis consultant, who now is Chairman of the National Capital Planning Commission. Amended from time to time, the ordinance and the zoning maps were thoroughly outdated. This was abundantly clear to architects, property owners, and everybody else who had to work with them. The job of devising a new ordinance and appropriate maps was given to Harold Lewis, an eminent New York planning and zoning consultant, who installed an exceptionally capable assistant, George Gatter, as his local representative. Nearly two years of work by the consutants were punctuated by excellent progress reports, in the course of which it became clear that the zoning men were operating without much direction from the planning commission. The so-called "comprehensive plan" was not only highly general; in many respects it was outdated. To make matters worse, the rezoning operation was not undertaken by the planning commission but by a wholly independent body, the Board of Zoning Appeals. That the proposed rezoning today reflects any planning considerations whatsoever is due, therefore, almost entirely to the consultants' belief that more than an administrative tidying-up was required.

To an extraordinary degree, what happened in Washington parallels the effort of Harrison, Ballard & Allen to revise New York City's zoning arrangements in 1950. In Washington, the consultants assumed from the beginning that a good measure of community education was a part of their responsibility. Their reports were extensively circulated. The consultants met frequently with local organizations. Full press coverage was received. The climax of this effort toward more active community participation in the rezoning work was a series of ten public meetings in different sections of the city, designed to lead to final revisions in the consultants' recommendations to reconcile them as nearly as possible with the public viewpoint. The consultants were also provided with a Commissioner's Zoning Advisory Committee of some 60 members.

Had there been a well conceived, up-to-date, comprehensive plan, upon which the community had agreed, these arrangements might have worked well. But it was painfully apparent, from the beginning, that the zoning consultants were drifting among such major unresolved questions as the role of the central business district, dispersion of government employment centers to suburban locations, the conflict between relatively open traffic arteries and streets clogged with shopping traffic and high residential densities, the need to develop commercial sub-centers, and many others. Lacking both the resources to create a substitute for a comprehensive plan, or even a consensus of opinion on any of these issues, the rezoning became a battleground in which interested parties contended with each other. Nowhere was this more apparent than in the work of the Zoning Advisory Committee, where the few members who represented the public interest were overwhelmed by those representing special interests.

Perhaps it is academic to suggest that without a better planning framework, or at least without a few decisions on the key points, comprehensive rezoning of this sort is impossible. The job was turned down by at least one firm precisely because such a context was lacking. Perhaps the consultants should have contented themselves with a less ambitious assignment, and refrained from raising questions that their professional consciences prompted them to raise. Such thought-control is not unknown among zoning experts: but such observations lead nowhere. The answer is that the difficulty lay not with the consultants, but with the failure of the community itself to appreciate that the job to be done was a basic planning job, not a minor question.

As matters stand, Lewis proposes to curtail downtown employment and further development by height and bulk regulations. Land owners, developers, many architects, businessmen, and others see this simply as a threat to specific projects they have in mind. To free the city's arterial streets and lessen congestion in the commercial center, stringent off-street parking regulations are proposed. These are objected to by private owners as an unwarranted development charge. New and fairly high standards of coverage are proposed, to which many private owners object because they consider it will lower the value of their property. While all of these proposals can be modified and compromises effected, the present political climate makes it unlikely.

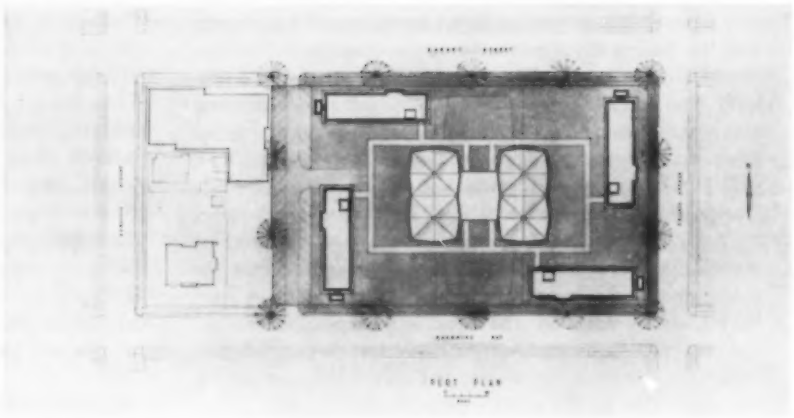
What are needed here, as in many larger cities, are measures of regional planning and regional government which alone can provide the solution to housing, traffic, finance, mass transportation, water supply, and many other local problems. The situation disclosed by the zoning controversy is serious enough to lead one to propose the creation of a Presidential Commission to initiate such moves. It is clearly beyond the District Government, the National Capital Planning Commission, or any Congressional Committee. Given Washington's peculiar form of government, the complexity and urgency of its problems, and the present impasse in zoning, it is the only way out.

WINNERS OF TWO DESIGN

Two important architectural competitions have recently been concluded, with top awards in one going to Carl I. Warnecke & John Carl Warnecke, San Francisco, for the design of a new 800-student residence hall (*this page*); in the other to William Mann & Roy Harrover, Architects, and Leigh Williams, Associate, for the design of a Fine Arts Center *(acrosspage)* to be built in Memphis.

Seven architectural firms* competed in the design of the residence hall for the University of California. The winner was chosen by a Jury composed of Pietro Belluschi, FAIA, Dean of MIT School of Architecture; John Ekin Dinwiddie, AIA, Dean of Tulane School of Architecture; Paul Thiry, FAIA; Mrs. Dorothy B. Chandler, Regent; and Farnham P. Griffith, Regent Emeritus. John Lyon Reid was Professional Advisor.

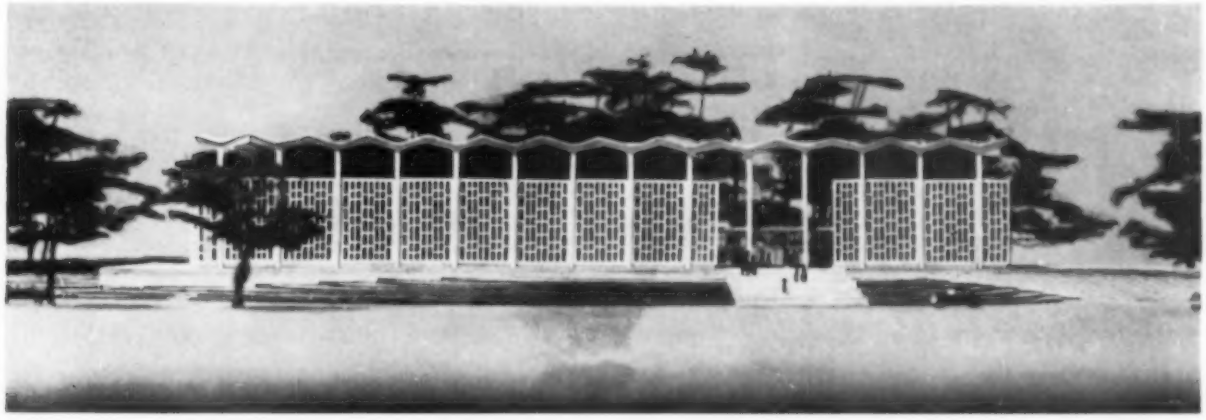
The winning design for the Memphis Fine Arts Center was chosen from eight entries by Jurors Philip C. Johnson, Architect, New York; Paul Rudolph, Architect, Sarasota, Florida; and Thomas H. Creighton, Editor, PROGRESSIVE ARCHITECTURE. Paul Schweikher, Head of Department of Architecture, Carnegie Institute of Technology, was Professional Advisor.

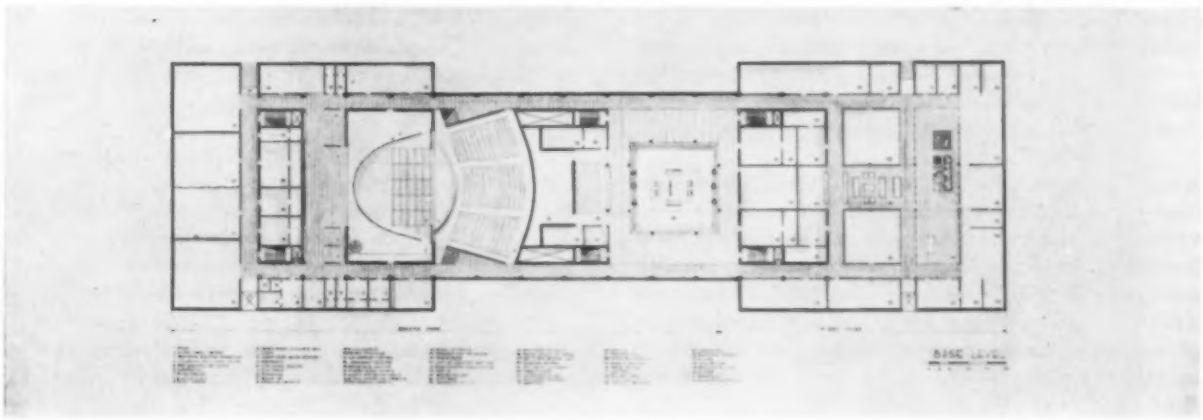


* *John Funk, Kitchen & Hunt (Honorable Mention); Pereira & Luckman (Honorable Mention); Welton Becket & Associates; Gardner Dailey; Vernon DeMars, Joseph Esherick, and Ernest Kump; Weihe, Frick & Kruse.*

BERKELEY, CALIF., Aug. 15—Plan proposals for a new 800-student residence hall by Carl I. Warnecke & John Carl Warnecke were announced today by the University of California. The winning design *(above)*, selected by unanimous vote "managed to create a feeling of enclosed and comfortable space for the whole," according to the Jury, "and also intimate and friendly courts and gardens. Points of superiority in this design included: better relation to traffic to and from the campus for autos and pedestrians; more natural and inviting entrance to the whole and integration with interior rather than exterior circulation to the various elements; a more attractive informal and residential character for the central units; a better disposal of small courts off living and dining areas; a more convenient relation of the recreation room to the residential quarters; a better plan for the residential units, particularly in regard to placing of the service elements, stairs, and elevators." Honorable mentions went to Associated Architects John Funk and Kitchen & Hunt *(top left)*; Pereira & Luckman *(bottom left)*.

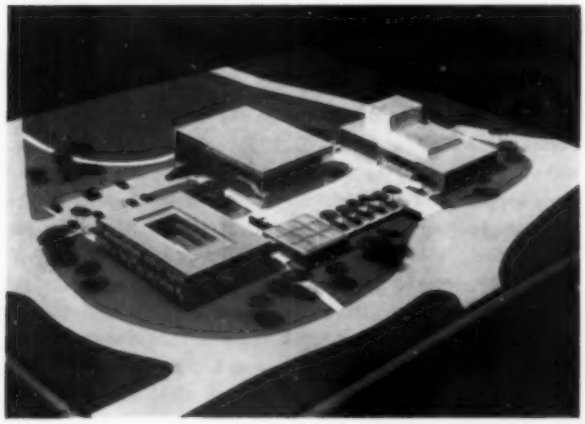
COMPETITIONS ANNOUNCED





MEMPHIS, TENN., Sept. 7—Three young local Architects today received the first award of $7000 as well as the commission to build the proposed Fine Arts Center for this city. The winning design *(above)* submitted by William Mann & Roy Harrover, Architects, and Leigh Williams, Associate, places the three required functions—an art academy, theater, and concert hall—under one roof. "It is a unified design," reports the Jury, "simplifying the many functions and seemingly complicated program. It should be beautiful from any aspect and will form a visual image of a pavilion which will be remembered—complete both in first stage and final stage. Raised above the ground on a podium it is a truly classical concept."

Other noteworthy solutions were submitted by A. L. Aydelott & Associates *(below left)* winner of second award for a plaza scheme, an "excellent solution to the many functional problems"; third award went to a proposal with interconnected building elements *(below right)* by Thomas F. Faires & Associates.



Financial News

by William Hurd Hillyer

Many architects are about to re-enter college: this time to design more and better student living quarters. College Housing is the latest sector of construction to loom large on the architectural horizon. Title IV of the Housing Act, as amended, provides for direct Federal interim loans at interest rates as low as 2¾% to help institutions of learning in the development of student living quarters. Lest these facilities be overlooked both by bankers and borrowers, the American Bankers Association in its current official journal reviews a liberal policy statement released by the Community Facilities Administration of the Housing and Home Finance Agency. The statement deals with projects approved under the College Housing Program. Pending Government purchase of long-time bonds on a project, the college is encouraged to start building "at the earliest possible date" and short-time financing—three months to one year—is provided through co-operating banks. This subvention should greatly enlarge the college housing outlook, with consequent benefit to architects.

A major opportunity for the architect in a small- or medium-sized city is afforded by the remodeling wave that is refreshing the bank world in the wake of wholesale rebuilding. Example: Columbia Heights (Minn.) State Bank, presently undergoing its third remodeling since 1937. Modern and logical, the new design permits access to 42 parking stalls; drive-in teller window facilities are afforded without the creation of waiting car-lines on the street. Larson-McLaren of Minneapolis are the architects.

• Residential property owners are likewise potential improvers. Home remodeling will be a major industry during the next 12 months, a "Look-Politz" survey indicates, revealing 14,700,000 prospective undertakings. With a rough minimum average of $1000 each, these jobs should total some $15 billions—yielding a tidy $225 millions of architectural fees if only 10% of the work were professionally handled.

• Houses large and small are going to cost more next year than in '56, a venerable New England financial authority confidently predicts. This trend will be due partly to steel strike repercussions and partly because of irreversible inflation, that observer believes. No matter how many home buyers are brought into market by Government gambit, they will pay more. The large-house buyer will likely come back into being as the number of high incomes mount, thus restoring a gap on architects' drafting boards.

• Cost of money is likely to go up because of increasing tightness. The tension is objectively shown by the continued expansion of mortgage loan "warehousing," which mounted 8% during the 12 weeks ended Aug. 8, Federal Reserve sources reveal. This means that banks are increasing rather than diminishing their interim carry-over of mortgages for insurance companies and other important lenders whose funds are barrel-bottomed at this time.

• Enterprises wherein structural design plays a part but which suffer from lack of orthodox capital pattern will be more easily put together in future with the aid of business development corporations in the several states, if action by the recently organized New York Development Corp. is any criterion. The company's third loan was granted to a new St. Lawrence Valley "hotel-motel" hindered in its operations by debts incurred during the construction and development of the hostelry. It is in a fast growing area lacking adequate hotel facilities. Presumably, these burdens could have been handily disposed of, had the development company been in existence a little earlier. The loan is for $250,000 on first mortgage, New York State Bankers Association hears. State development corporations, pioneered in New England, are springing up nationwide, and should soon play an unique part as finders of quasi-equity capital.

• "A renewed cyclical upturn beginning in the autumn" is envisioned by the Guaranty Trust Company of New York, which believes that even with a moderate business decline the chances for such a recovery would be very good. To that authority, the expectation for measurably rising business in the early winter "looks reasonable."

• Money is still tight, with Federal Reserve taking steps to make it tighter through raising "discount" rates to 3% on funds borrowed by banks. Demand is far outstripping supply; inflationary fears are forgotten in the scramble for wherewithal to expand facilities and augment profits. Nevertheless, sober observers see creeping inflation as a relentless long-term hazard. Meanwhile banking authorities, conceding that '56 will ride to a prosperous finish, are assuming the role of haruspex for '57. Conceivably, they foresee, high interest rates could "aggravate the housing dip" or check the investment boom. In such case, says New York's largest trust company, Federal Reserve policy would doubtless be reversed in the direction of easier money. However, there is no certainty that declines once started could easily be arrested.

"Renewed confidence" is the phrase used by Federal Reserve Bank of Chicago to describe the attitude of American business toward the future as 1956 enters its last quarter. More significantly, the bank contends that current horizon-signs support this euphoric view. Despite home-sales weakness, employment and income are at record levels, as are retail sales. Paradox of the year: The steel strike impact has actually worked out to bolster confidence by reducing top-heavy inventories, the bank avers. Few firms, however, have had to reduce output because of insufficient steel. The construction industries will face higher prices, but the Federal Reserve Bank sees no threat of steel inadequacy in the foreseeable future.

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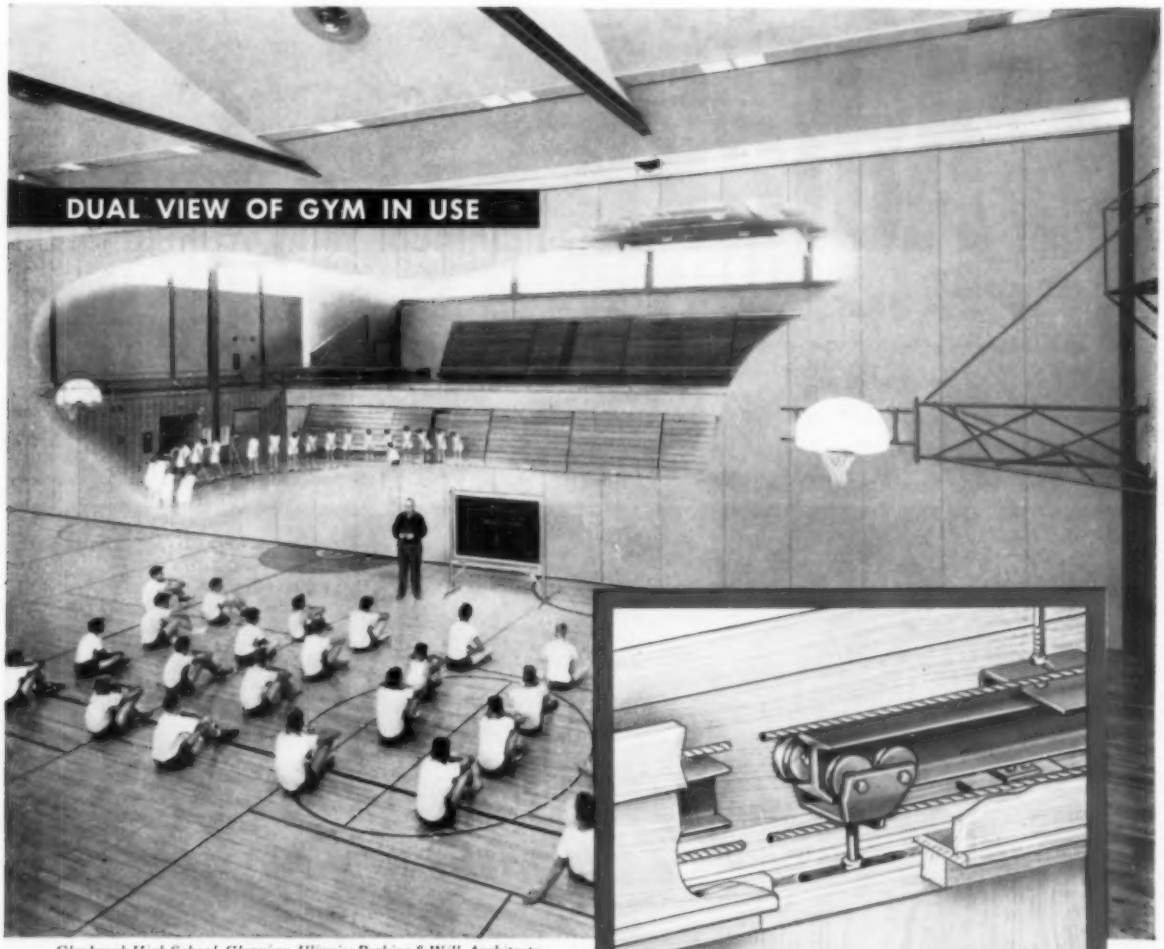
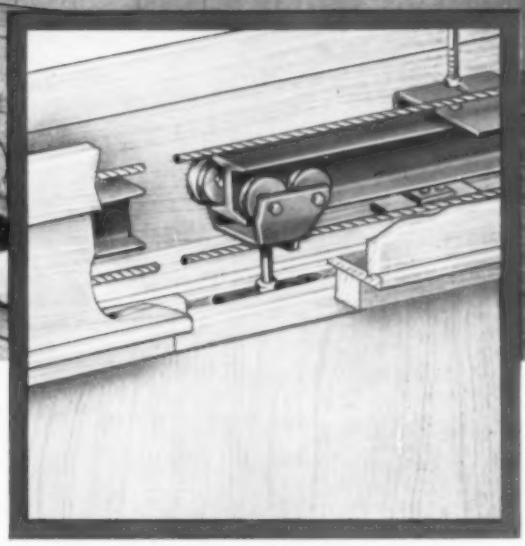


Glenbrook High School, Glenview, Illinois; Perkins & Will, Architects



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for november

PROGRESSIVE ARCHITECTURE

Recent years have seen the introduction of a number of new types of health buildings: clinics, doctors' co-operative office buildings, small regional hospitals, and institutions of various kinds. Each of these presents its own particular problems in design, construction, and the provision of special facilities. P/A for November will be devoted to the presentation of six notable Hospital and Institutional Buildings and related articles.

> Introduction of advanced teaching methods will be seen in the striking new *University of Texas Dental School* by MacKie & Kamrath, Houston. Unit labs for four students each and use of closed-circuit TV are elements in this excellently planned institution.

Other health building types will be represented by *Two Parish Hospitals* in Louisiana by Curtis & Davis of New Orleans—*Thoracic Clinic* in Boston by The Architects Collaborative—*Home for the Aged* in California by Walter A. Costa of Lafayette, California—*Doctors' Building* in North Dakota by Thorshov & Cerny of Minneapolis.

Tying in with the theme of the November issue will be two special articles: "Integration: Today's Challenge in Hospital Design," by Dr. E. M. Bluestone and "Hospital Air Conditioning," by William O. Huebner of the Anemostat Corp.

Other features of November P/A:

Progressive Architecture in America III
by Ada Louise Huxtable
Jayne Building, Philadelphia (1849-50)
Architects: William J. Johnston & Thomas U. Walter

Louis H. Sullivan and Hendrik Berlage: A Centennial Tribute to Two Architectural Pioneers
by Leonard K. Eaton, University of Michigan

Presentation of a house/studio in Pennsylvania, by Arthur B. White, Architect, Philadelphia

Machine-Room Noise Abatement, by Edgar A. Burt, Chief Engineer of Orr & Sembower, Inc.

Correct Sight-Line for Gymnasium Seating
by C. H. Wetzel, President, Wayne Iron Works

PROGRESSIVE ARCHITECTURE

means

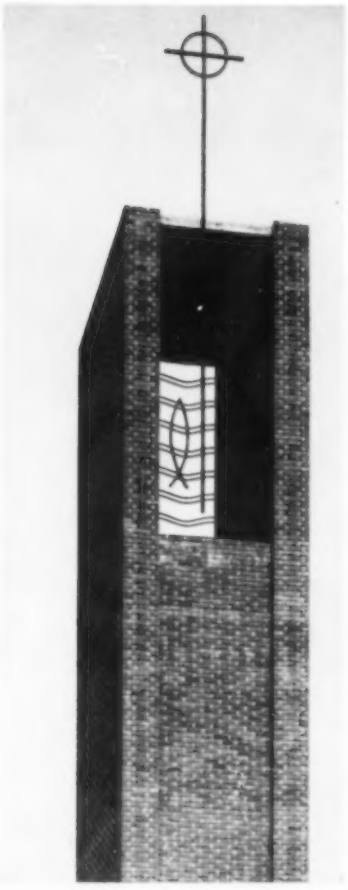
ARCHITECTURAL PROGRESS

In

Design • Structure • Engineering

Materials and Methods • Specification Writing

Interior Design • Office Practice



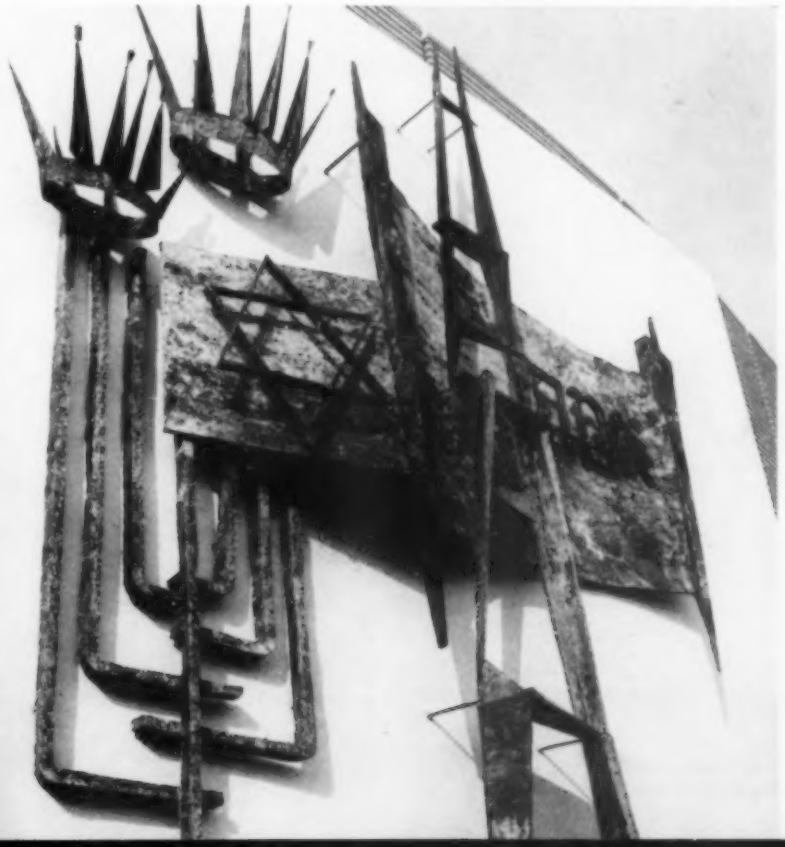
Churches and Temples

Design expression is the most formidable hurdle that the architect for a house of worship confronts. Comparatively simple is the matter of providing sufficient seating and the sensible placement of ritualistic elements. Acoustical and lighting engineers can work out good functional solutions to these factual problems. Any number of structural systems and materials can be soundly joined to provide proper shelter. But what design quality should one reach for in a church or a temple? How should it differ in aspect from any other communal building? The examples shown here surely prove that there is no simple or single answer. These buildings could hardly vary more widely in character and appearance. Yet, clearly evident in all of them is the effort each architect has made to reach the common goal of creating an atmosphere that is conducive to worship.

Design of religious symbols is a striking instance of the way old and new may be joined. The symbols themselves derive from the most ancient conventions; yet their design expression today may employ wholly contemporary materials and art concepts.

The belfry screen for St. Peter's Episcopal Church, San Pedro, Calif. (above), *was designed in steel by Hudson Roysher (Carleton Monroe Winslow, Architect); while the 26-ft-high "Jacob's Ladder" for Temple Emanuel, Beverly Hills, Calif.* (right), *is a Bernard Rosenthal sculpture in bronze and brass (Sidney Eisenshtat, Architect).*

Photos: Erwin Lang
Bernard Rosenthal

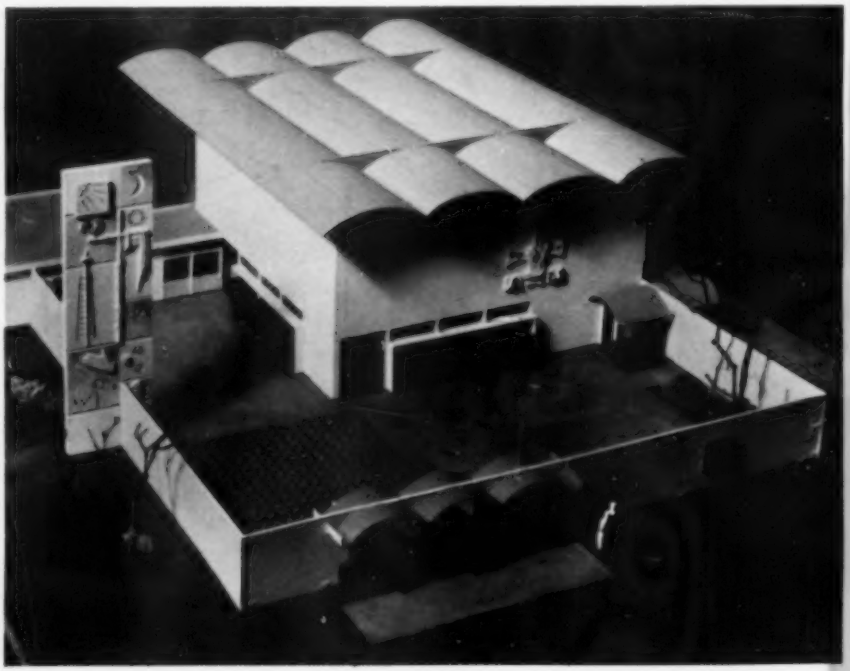


The Immaculate Conception Church (above) *is now under construction in Marrero, La.; Curtis & Davis, Architects. For the walls a specially cast concrete tile is used; the roof surface is a mastic-base, built-up roofing with exceptional insulating qualities.*
Photos: Frank Lotz Miller

For Puerto Ordaz, Venezuela, a Roman Catholic Church (below) *is designed as part of the community center of a new town for the Orinoco Mining Company.*

Both walls and roof of a church for Tumaco, Colombia, (acrosspage) *are serpentine in section.*

Architects: Town Planning Consultants Paul Lester Wiener and José Luis Sert.

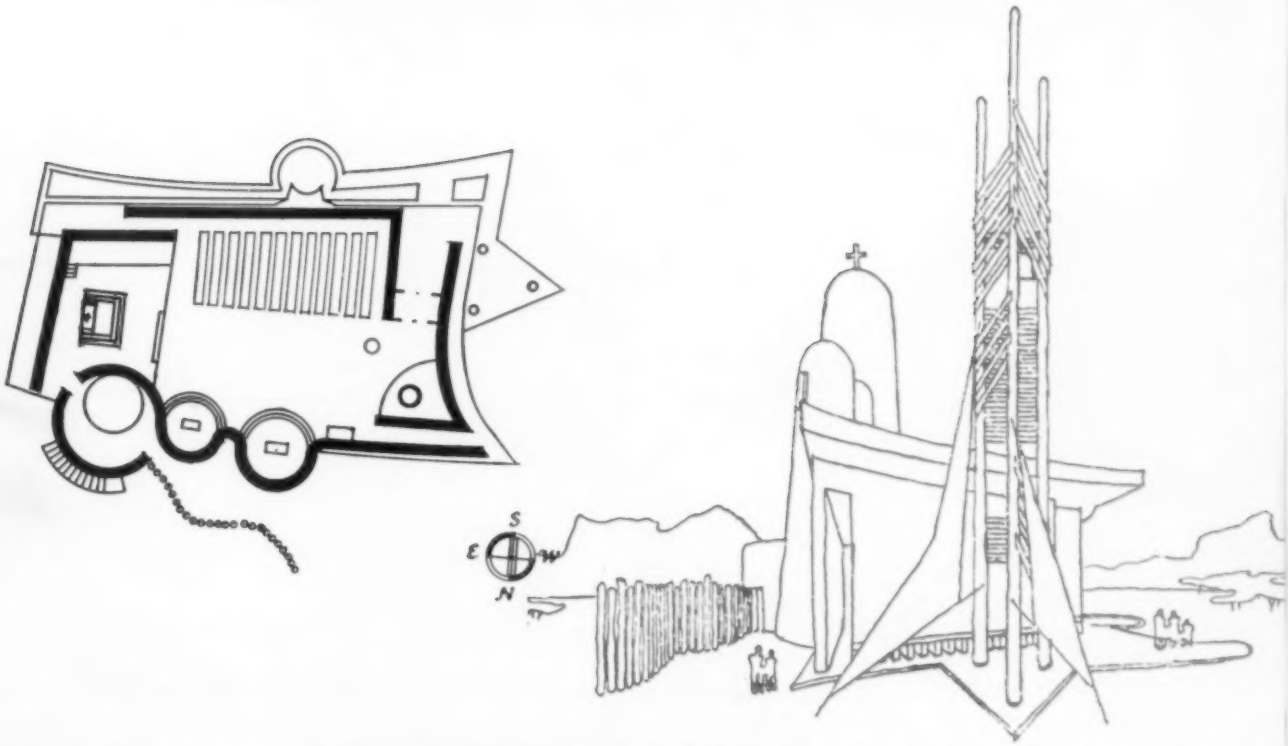


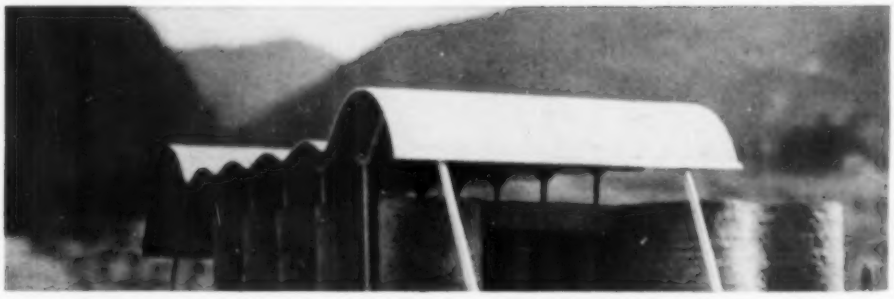
While a church or temple clearly serves a worldly community, its message offers the promise of a transcendent community. Should it not, therefore, at least be as beautiful as talent can contrive; be serene and inspiring in the midst of confusion; suggest symbolically the highest standards?

Within the walls of a house of worship, the loftiest thoughts and hopes are expressed. Perhaps this suggests that the organization of space should receive the most careful consideration—room for the lofty thoughts;[1] the design somehow combining appreciation of the beauty of the physical world with confidence in considering the after life.

Religion confidently maintains that, whatever the meanness and inhumanity of man to man that thrives in the mun-

[1] *Gerald F. Weary, Minister*





In designing this church for a community in Central Africa, Architect Oscar Nitzchke paid special attention to control of wind currents. Openings at the four corners as well as along the base of the building are provided to induce air circulation. The roof is developed in a double-layer or "parasol" system for the same reason.

Courtesy: Liturgical Arts

dane world, something far better is possible. The buildings should then, it seems, be beacons within the community; stand proudly forth; and not, as one critic has said, "squat down too acquiescingly . . . slip too smoothly into the formal mores . . . slide too slickly into what the community already believes. . . ."[2]

Most religions deal with the mystery of and hope for the after life, at the same time encouraging the greatest individual fulfillment in the here and now. So, concern ranges from joy to sorrow; lightness to darkness; life to death. How might these facts be symbolized in building design and structure? Much would depend on which aspects of the gamut a particular congregation, priest, or rabbi wishes emphasized. The building might be created as the brightest, lightest, most gladsome design—witness Lloyd Wright's "Wayfarer's Chapel" south of Los Angeles, wherein a light frame and panes of glass are all that distinguish enclosure from out of doors; or one could emphasize austerity, apartness, mystery, and drama and come up with something as solemn and impressive as the fortresslike Chapel for MIT, by Eero Saarinen, where the semigloom of the interior is broken by a bright and shimmering shaft of light that blazes down on the ceremonial table.

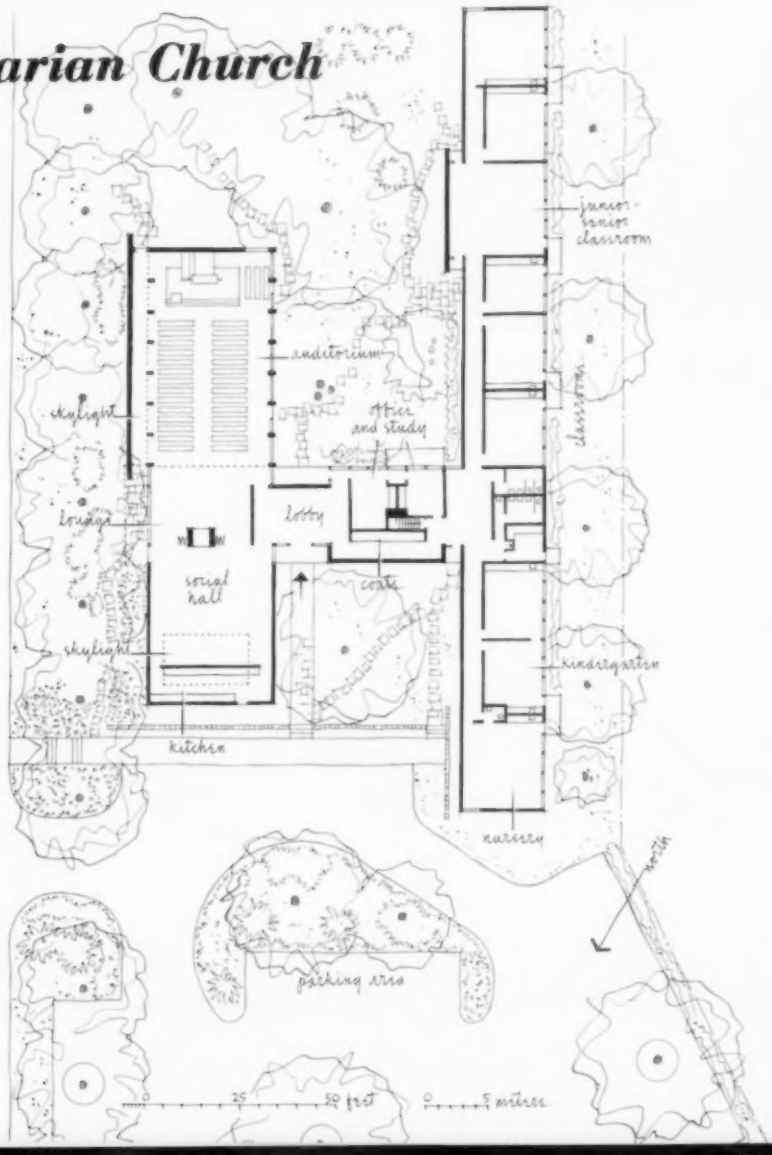
Or, one might attempt a design that, in varying moods and aspects, would echo the total dialectical range of religion's concerns—a building with areas of total openness; yet with harbors of cavelike protection and retreat; of brightness and gladness, on the one hand; of solemnity and dignity, on the other.

This general approach would appear to be the one to which most architects of churches or temples today apply their talents, and—in varying degrees—the buildings shown in this issue are clear examples. Most, if not all, join man and nature, either through garden extensions of interior spaces or introduction of plant materials within the rooms for worship. And they all have an atmosphere that would seem to allow quiet contemplation, if not adoration. And they all have central focal points to which the eyes and ears of the congregation are directed for concentration on the unworldly ceremonies and services that are conducted. And each architect obviously has strived—with more or less success, depending on his ability—to produce a building of beauty, serenity, and welcome.

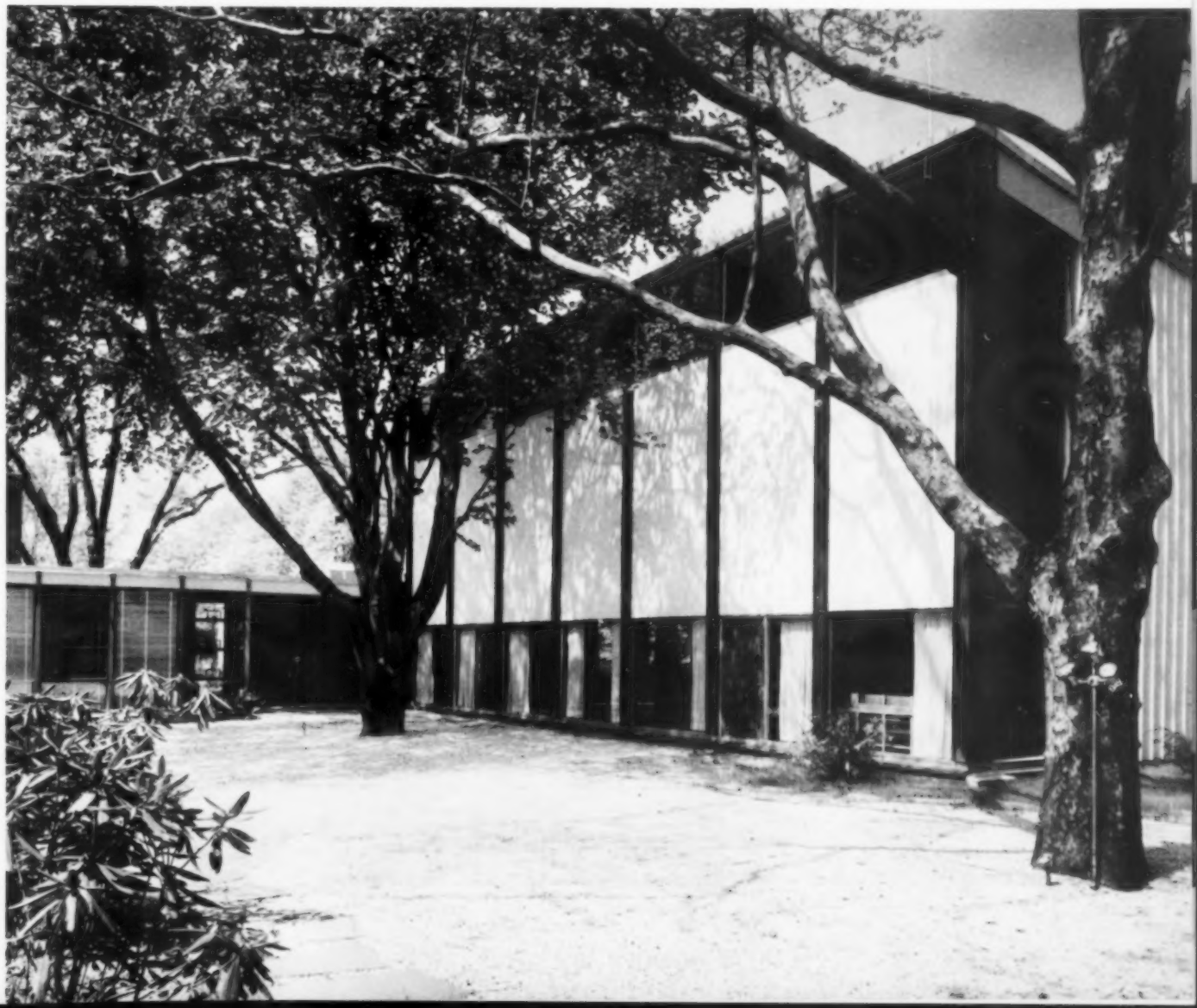
[2] *The Rev. Joseph Sittler, Jr.*

Unitarian Church

location	Plandome, New York
architect	Charles H. Warner, Jr.
consulting designer	Harold Eliot Leeds



It was desirable in the basic planning of this church to turn away from the main thoroughfare which borders the property on one side. To accommodate the numerous existing trees on the property a two-court scheme was adopted, giving the visual effect of almost total penetration by nature. The first of the courts, an inviting square with shrubs and trees, borders the main approach and parking area. The second, a secluded court pleasantly sheltered by a magnificent copper beech, serves as a visual extension to the worship room. Major element of the H-plan is the "worship room" of which Minister Gerald F. Weary says: "You are drawn irresistibly to the worship room . . . a room that is spacious and that incorporates into itself an unusual amount of sunlight, of soil, and growing things . . . it is conducive to spacious and lofty thinking." In contrast, the adjoining lounge, which is also valuable as occasional overflow space for the "worship room," offers, with its fireplace and informal furnishings, the necessary warmth and intimacy. "The perfect religious conscience is a conscience that worships a God who both transcends the world and is in the world, who is both lofty and practical, far and near, austere and intimate. It is nice to have both of these elements combined and symbolized in the worship room by the device of the lounge and fireplace." A skylighted social hall, on the opposite site of the fireplace wall, may be used independently or in conjunction with the "worship room" and lounge. Church-school classrooms are distinctly separated from this adult area. A block, consisting of minister's study, church office, main lobby, and coat storage, forms the link between the two major building elements. Others who contributed to the success of this noteworthy structure were Robert Burns, Suzanne Sekey, Andrew Mitropoulos, Shoso Kagawa, and Eleanor Larrabee—all members of the architect's staff. Winley Builders, Inc., was General Contractor.



Exterior of the chancel wall (above) *is surfaced with bleached-wood siding and battens, recalled again on the interior face* (acrosspage below) *in a more highly refined manner by spline-battened plywood—painted white.*

Wherever practical, wood construction has been used throughout the building. In the "worship room," joists rest on laminated-wood girders, tied with moment connections to wood columns. Structural supports have been stained a dark brown, providing the strong framework for side walls of bleached-gray vertical boards, red-brown brick, and neutral-gray metal window frames. Benches are upholstered in warm-russet material, chancel carpet is rich green.

Gallery (right) *has unpierced brick cavity wall toward street, but is skylighted for view into tree tops. Fluorescent strips are intended to simulate and complement the natural light in this area.*

Photos: Gottscho-Schleisner

Unitarian Church

Street façade of church (left) is windowless except for glass wall of lounge (below). Informally furnished area is appropriate for small meetings and before- and after-service gatherings. Walls on either side of fireplace may be folded back to allow free circulation to and from social hall. Flooring is buff-gray quarry tile; rug, moroccan in natural colors. Accent colors are supplied by upholstery fabrics.

Window wall of church-school wing (below) *opens away from adult worship area onto parklike landscape. Three-ring silver-bulb incandescent fixtures augment daylight from window walls. Each classroom has its own individual color scheme.*

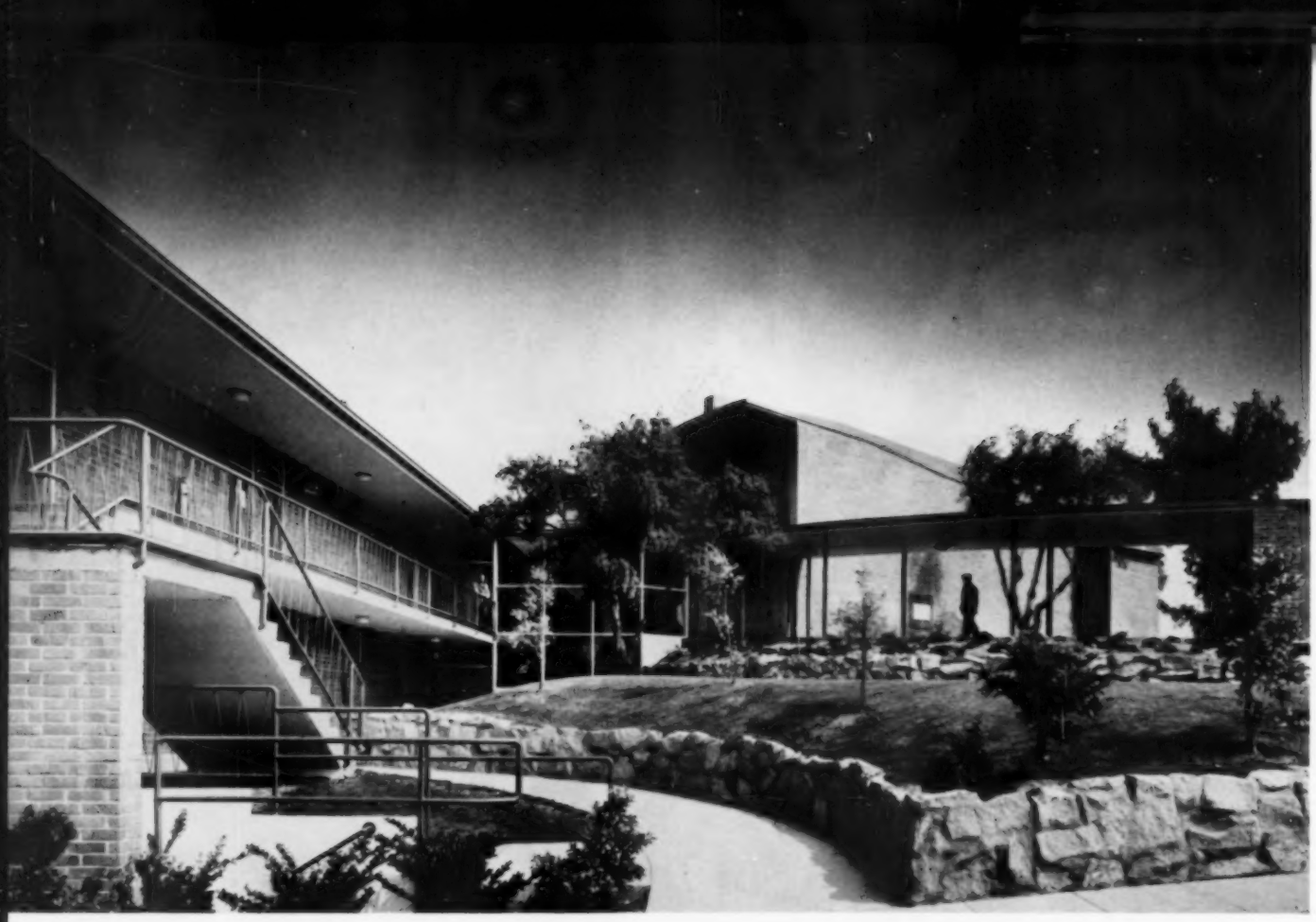
Materials & Methods

construction

Foundation: reinforced concrete. **Structure:** walls: wood stud; floors: slab on grade; roof: wood joists, steel beams, laminated-wood girders (auditorium)—Roof Structures, Inc. **Wall surfacing:** brick—Glen Gery Shale Brick Corporation; western red-cedar vertical siding; plasterboard—United States Gypsum Company; wallboard—Homasote Company; cork tackboards—Armstrong Cork Company; cloth wall covering—The Chandler Manufacturing Company, Inc.; rest rooms, toilets: ceramic tile—The Mosaic Tile Company. **Floor surfacing:** vinyl asbestos and cork (auditorium)—Kentile, Inc.; wood block (social hall)—E. L. Bruce Company. **Ceiling surfacing:** plasterboard; sprayed asbestos (auditorium). **Roof surfacing:** built-up roofing with slag surface—Philip Carey Manufacturing Company; aluminum gravel stops—Aluminum Company of America. **Waterproofing & dampproofing:** asphalt mastic for wall dampproofing. **Insulation:** acoustical sprayed asbestos (worship room)—Sprayon Insulation & Acoustics Inc., fissured mineral-wool tile (children's worship room)—Armstrong Cork Company; thermal: aluminum-foil-air-space insulation (ceilings)—Infra Insulation, Inc., blanket insulation (sidewalls)—Johns-Manville. **Roof drainage:** aluminum gutters and downspouts; cast-iron drains—Josam Manufacturing Company. **Partitions:** metal toilet partitions—Sanymetal Products Company, Inc. **Windows:** intermediate projected steel sash—Bogert & Carlough Company; plate glass—Pittsburgh Plate Glass Company; rough hammered glass—Mississippi Glass Company; aluminum skylights—Fisher Skylights, Inc. **Doors:** tubular-aluminum entrance—The Kawneer Company; exterior aluminum sliding doors—Glide Windows, Inc.; soundproof folding partition—John T. Fairhurst Company, Inc. **Hardware:** lock sets—Schlage Lock Company; floor checks—Oscar C. Rixson Company; hinges—The Stanley Works and Oscar C. Rixson Company; panic exit—P & F Corbin Division of American Hardware Corporation. **Paint & stain:** creosote bleaching oil stain—Samuel Cabot, Inc.; oil-base paints—Pratt & Lambert, Inc.

equipment

Specialized equipment: built-in gas oven and range—Chambers Corporation; organ—Allen Organ Company; architect-designed benches (worship room)—J. G. Furniture Company; architect-designed chancel furniture and classroom cabinets—B & S Store Fixtures, Inc. **Lighting fixtures:** Century Lighting, Inc.; Gotham Lighting Corporation; Northcraft Lighting Company; Kurt Versen Company; architect-designed chandeliers—Howard Nostrand. **Electric distribution:** service-entrance switch and multibreaker—Bulldog Electric Products Company; wiring devices—Harvey Hubbell, Inc. **Plumbing & sanitary:** water closets, urinals, and lavatories—American Radiator & Standard Sanitary Corporation; toilet seats—C. F. Church Manufacturing Company; soap dispensers—American Dispenser Company, Inc.; incinerator—A.P.W. Products Company, Inc.; classroom and kitchen sinks—Legion Stainless Sink Corporation. **Heating:** type: forced hot air; furnace—MaGirl Foundry & Furnace Company; fuel—oil; ducts—galvanized sheet metal under slab; floor grills—Barber-Colman Company; exhaust fans—Hunter Fan & Ventilating Company; controls—Powers Regulator Company.



Temple Isaiah

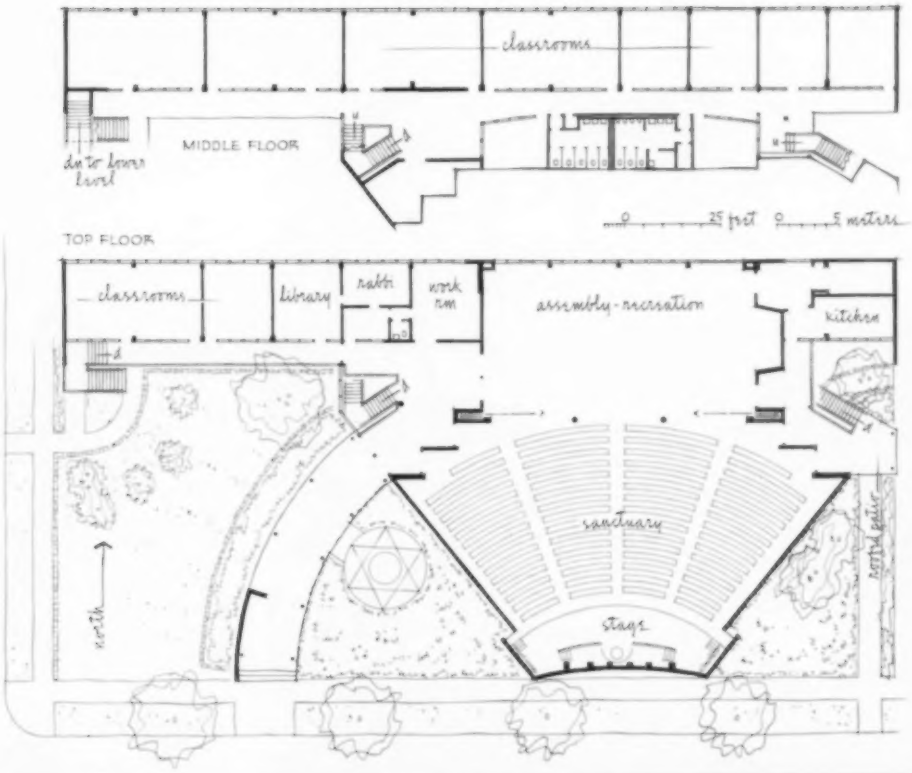
location | Los Angeles, California
architect | Kenneth N. Lind

In design and construction of this temple, the architect worked to echo the progressive attitude of the particular congregation for which it was built. The program called for a sanctuary, assembly-recreation hall, offices, and classrooms.

The site faces south on a busy boulevard and slopes down quite steeply to its northern boundary. To shield the temple from the sound and fury of traffic, the scheme turns its back on the street, and a solid masonry wall constitutes the boulevard front. A curved, sheltered walk leads well back into the site to reach the main entrance, and, by taking advantage of the site slope, a three-level structure was feasible at the north end of the group to house the classrooms and offices, with the top floor occurring at the level of the main entrance to the building.

The 600-seat, pie-shape sanctuary is roofed by a remarkable, 1,000,000-pound lifted slab developed for the job by the Vagtborg Lift Slab Corporation. The Architect tells us that this resulted in a saving of about 12 percent, while the elimination of form work speeded construction time. The over-all span of the sanctuary is 75′x100′. The roof slab was poured to the same contour as the seating contour slope of the sanctuary. Having an area of 6000 sq ft, it was lifted to a position 3 ft above the floor and then tilted 3 ft and lifted on structural steel columns another 25 ft into roof position.

Associated with the architect in achieving the building were Brandow & Johnston, Structural Engineers; Paul Veneklasen, Accoustical Engineer; Zimmer Construction Company, General Contractor.


classrooms
MIDDLE FLOOR
down to lower level
0 25 feet 0 5 meters
TOP FLOOR
classrooms
library
rabbi
work rm
assembly - recreation
kitchen
sanctuary
stage
north
north entrance

From the main lobby, one has glimpses of the entrance walk (left of photo); stairs to lower classroom floors; and the balcony corridor for the upper floor.

To accommodate large attendance, the assembly hall (foreground, bottom photo) *may be joined with the sanctuary by opening a sound-insulated, folding partition. Acoustics of the sanctuary were designed to achieve a high degree of sound diffusion and freedom from disturbing echoes. Seating was selected to furnish absorption equivalent to that of a person, even when the seat is vacant.*

At the rear of the sanctuary stage (acrosspage), *insloping, lacquered, bleached-oak doors slide back to reveal the Ark.*

Photos: Julius Shulman

Temple Beth-El

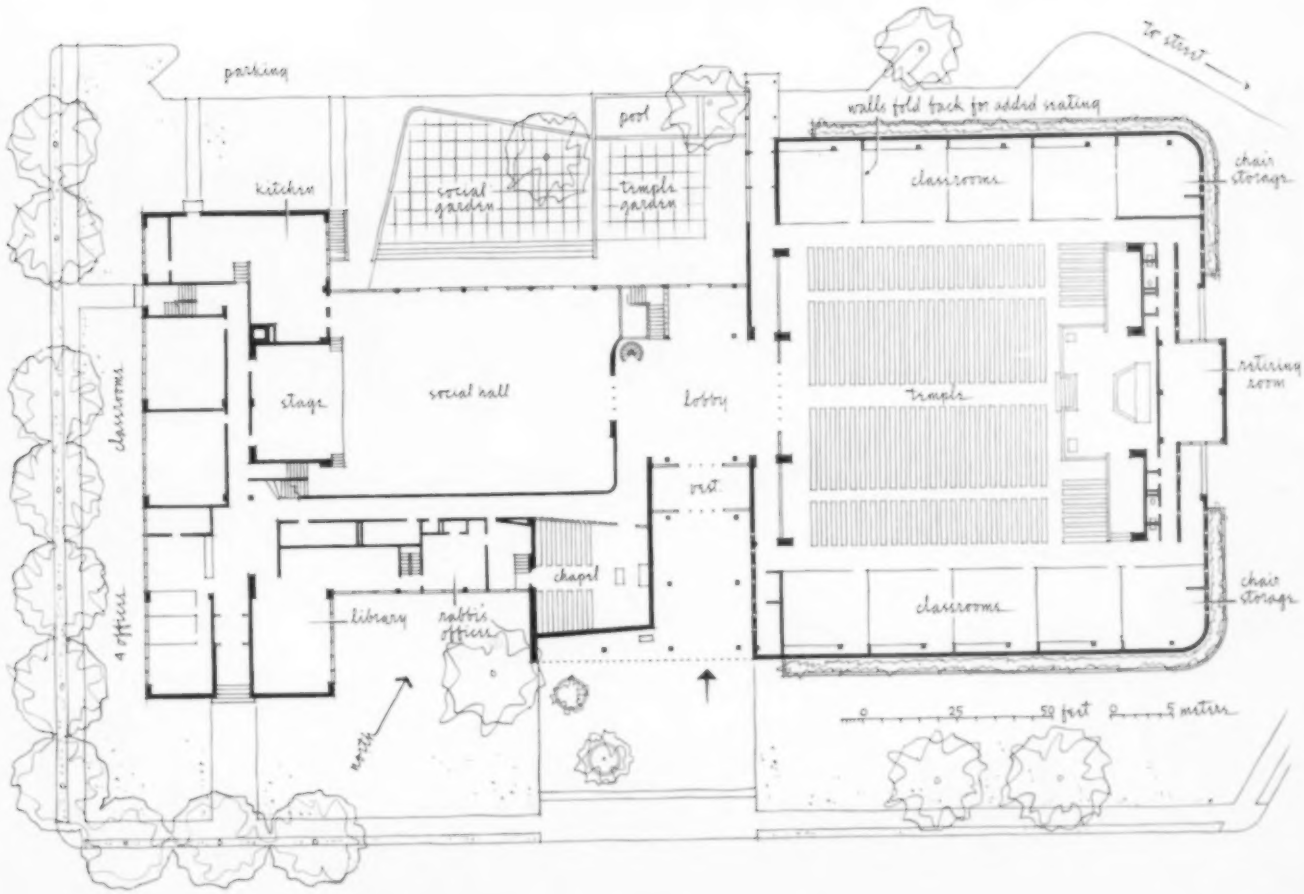
location | Providence, Rhode Island
architect | Percival Goodman

The temple for a congregation of as many as 1600 worshipers on High Holy Days, this individual building has qualities of exceptional drama and elegance, as well as aspects of peace, repose, and dignity. Throughout the spacious building, the original work of sculptors, mosaicists, and other contributing artists is generously employed.

Most dramatic single element of the reinforced-concrete structure is surely the lamella-arched wood roof (surfaced with copper) that soars to a height of 32 ft above the 80′x93′ area of the main portion of the temple. The four classrooms at either side are opened up to accommodate overflow seating for the larger gatherings. The 70-ft-long, 13-ft-high arched windows above are decorated with Biblical quotations in lettering specially designed by Ismar David. Exterior walls of the temple are cavity brick, with limestone trim.

At the opposite end of the building is a two-story classroom and office wing, while a social hall to accommodate up to 350 for dinner or 600 for lectures, plays, etc., occurs at the center and adjoins a landscaped social garden. The 30′x30′ chapel, seating 100, is lighted from a 15-ft, copper-surfaced dome. The temple is equipped with a complete mechanical-ventilating system that can readily be converted to air conditioning by the addition of compressor units.

Working with Goodman to create the structure were Severud-Elstad-Krueger, Structural Engineers; Levy & O'Keefe, Mechanical Engineers; James Douglas Graham who did the Landscaping; and E. Turgeon Construction Co., Inc., General Contractor.


parking
kitchen
social garden
temple garden
pool
walls fold back for added seating
To street
classrooms
chair storage
stage
social hall
lobby
temple
retiring room
classrooms
4 offices
library
rabbi's offices
chapel
vest.
chair storage
north
0 25 50 feet 0 5 meters

Temple Beth-El

In front of the sanctuary doors in the slate-paved main lobby (top acrosspage) *are three mosaic insets designed and executed by Walter Feldman. Doors are birch. The curtaining at the Ark and along side walls is the work of Dorothy Leibes.*

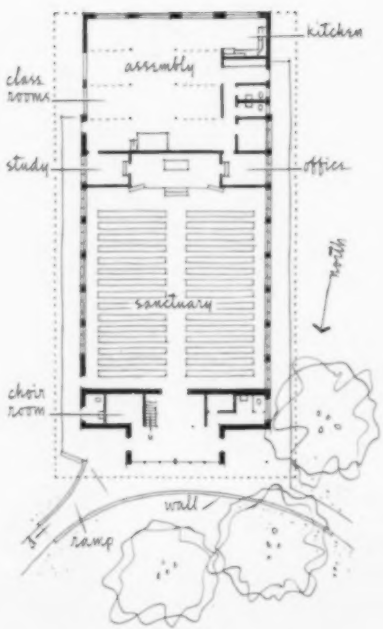
The corridor side of the chapel (bottom acrosspage) *is a grillage of wood, with amber glass. The Ark is of cedar wood; the table, limestone; the reading table, rosewood and bronze.*

In the lower lounge, a history of the Beth-El Congregation, is to be depicted on a 28-ft-long panel. Other artists that the architect would like to have credited are Pearl Braude, for draperies designed for the rabbi's suite; and (through the Kootz Gallery) sculptures by Herbert Ferber (for the Menorah on a rough stone base, on the entrance terrace); David Hare (Eternal Light in sheet-steel and copper, and Menorah in sheet-steel and bronze, both in the sanctuary); and Ibram Lassaw (sculptured decorations in the sanctuary representing the Pillar of Fire and Pillar of Cloud). Photos: Alexandre Georges

Presbyterian Church

location | San Antonio, Texas
architect | Milton A. Ryan

This small church adjoins a university campus and is attended by a number of students, in addition to its regular congregation numbering about 125. It is planned to expand the sanctuary another 9 or 18 ft by moving the chancel wall back into the space now occupied by the church school—as soon as a separate education building can be erected. The following requirements had to be met: a sanctuary to seat at least 300, with balcony for choir and an exposed organ; kitchen and dining facilities to serve 200 (this space also to be made adaptable with flexible space dividers for Sunday-school services); complete air conditioning; landscaping of the grounds; and off-street parking for 100 cars. Solid limestone at the sloping site and a small number of trees discouraged bulldozing and pointed to the use of a reinforced-concrete floor, partially on grade, partially on concrete piers and steel joists. The heating and air-conditioning equipment is located in the crawl space. Exterior walls are of brick cavity construction; interior wall surfaces of brick and vertical wood paneling. Roof beams and decking of wood are supported on metal pipe columns. Marvin R. Shipman was Structural Engineer; Walter E. Bowden, General Contractor.



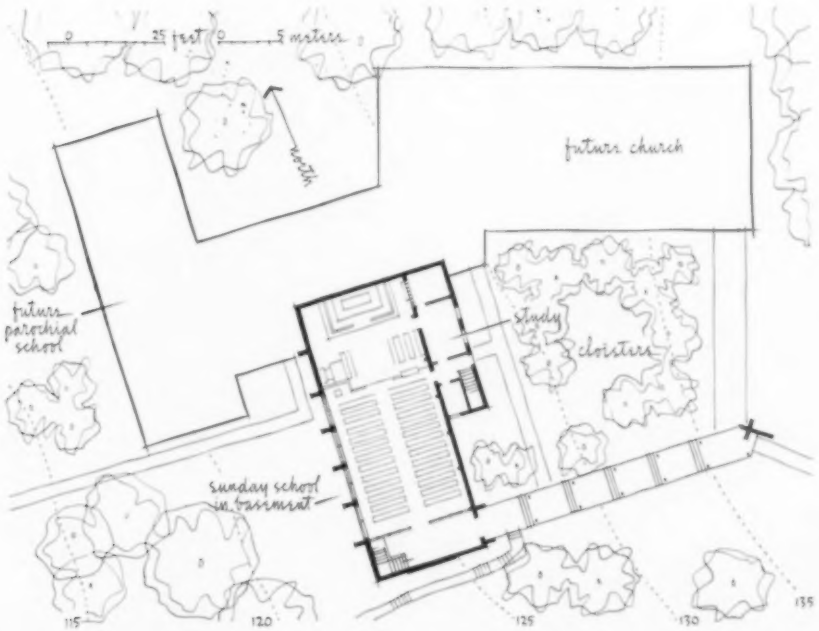
Foyer and main entrance (right and SELECTED DETAILS) *rest on a slab foundation about 12" below the natural exterior grade, in order to eliminate steps and to adjust the structure more suitably to the sloping site. Exterior covered walks, permissible in this climate, connect sanctuary and church school, thus eliminating the need for interior corridors. Gabled roof* (below) *gives proper emphasis to the sanctuary, affords space for the organ loft, aids in achieving good acoustics, and distinguishes this house of worship from other, horizontal structures of the university.*

Photos: Mears Photography

Lutheran Church

location | Paramus, New Jersey
architects | Shreve, Lamb & Harmon Associates

This chapel for the Lutheran congregation of a growing suburban community forms the first portion of a building complex which will include later a church and a parochial school. "It was necessary to consider this first unit as an architecturally balanced unit," write the architects, "which would readily become part of the complete, co-ordinated plant." To attain this objective, the building was placed a considerable distance downhill and away from the street, preserving the dominant location for the future sanctuary. A free-standing redwood tower serves as focal point for all structures, and a system of covered walks will unify the various plan elements. When the main sanctuary is built, the present chapel for 150 worshipers will become the parish hall. Because of the steeply sloping site, it was possible to open the Sunday-school rooms, on a floor below the chapel, directly onto the grounds. The west wall of the chapel also faces the lovely wooded site—however, deep fins of brick were introduced on this side of the building to limit glare and undue distraction. These brick members serve also structurally as buttresses for the laminated-wood bents which span the nave. The roof arches, supporting a wood-plank and asphalt-shingle roof, are modified three-hinged trusses. Interior corbels may later be hand-carved to a more refined form. The blank east wall of exposed, concrete block was introduced as sound barrier between the chapel and the future church. A forced-hot-water system supplies heat to the separately zoned chapel and Sunday-school rooms. All lighting is incandescent, using low-voltage relay switching throughout. Herman H. Kahman was General Contractor.



Lutheran Church

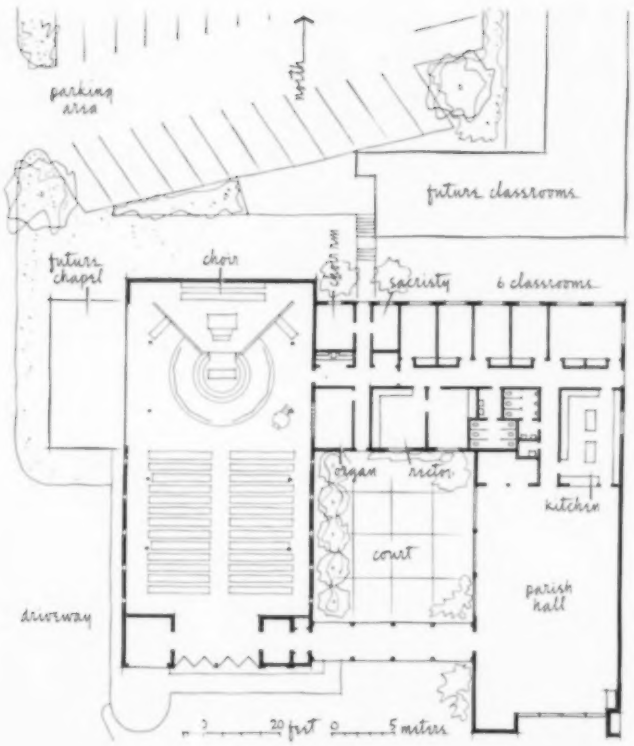
The south wall (left) *is almost entirely without openings and faced on the exterior with brick and 2"x6½" T&G wood planking. Covered walk from church to tower and street at high point of the site* (below) *will eventually link with another portico to the main sanctuary. Chancel wall behind altar* (acrosspage) *is of concrete blocks painted a dark plum red, to set off a suspended gold cross. Wood trusses and underside of roof planking are treated with a heavy, gray, oil stain. Other materials have natural finish.*

Photos: Joseph W. Molitor

Episcopal Church

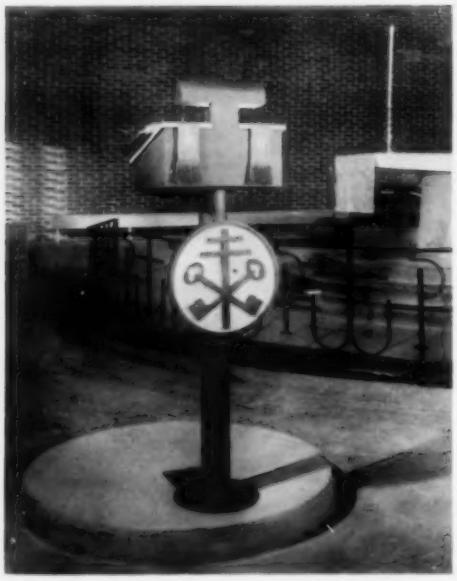
location | San Pedro, California
architect | Carleton Monroe Winslow

The dramatic possibilities of this site, high above street level and overlooking the harbor of San Pedro, have been strongly exploited—the eminence further accentuated by the dominant verticals of the building. Requirements of the building program included a sanctuary for 300 persons with provision for later expansion in the transept; an administrative center with two offices; six Sunday-school classrooms; a kitchen and parish hall to accommodate 200. The two major elements—the church and the social hall —are parallel. Offices, robing room, and six small classrooms connect the two structures in U-form. When present classrooms become inadequate, a new education wing will be added at the rear of the property—making the present small classrooms available for additional office space, choir vesting rooms, and sacristy space. Of interest structurally are the laminated wood arches visible on the inside of the sanctuary. These members stand independently of the side-walls, touching only at the floor, the ridge pole, and the purlin. Since the largest bending moment occurs in the center of the span the arches are tapered at the extremities, thus imparting a lofty and light quality to the interior of the church. Flat, laminated beams with a slight camber were used to span the parish hall. The building is heated by hot water radiant heat. Artificial lighting is entirely by cove lighting. The Structural Engineer was Eugene D. Birnbaum; Glen D. Brockman was General Contractor. Hudson Roysher designed the church furniture and most of the liturgical ornaments.

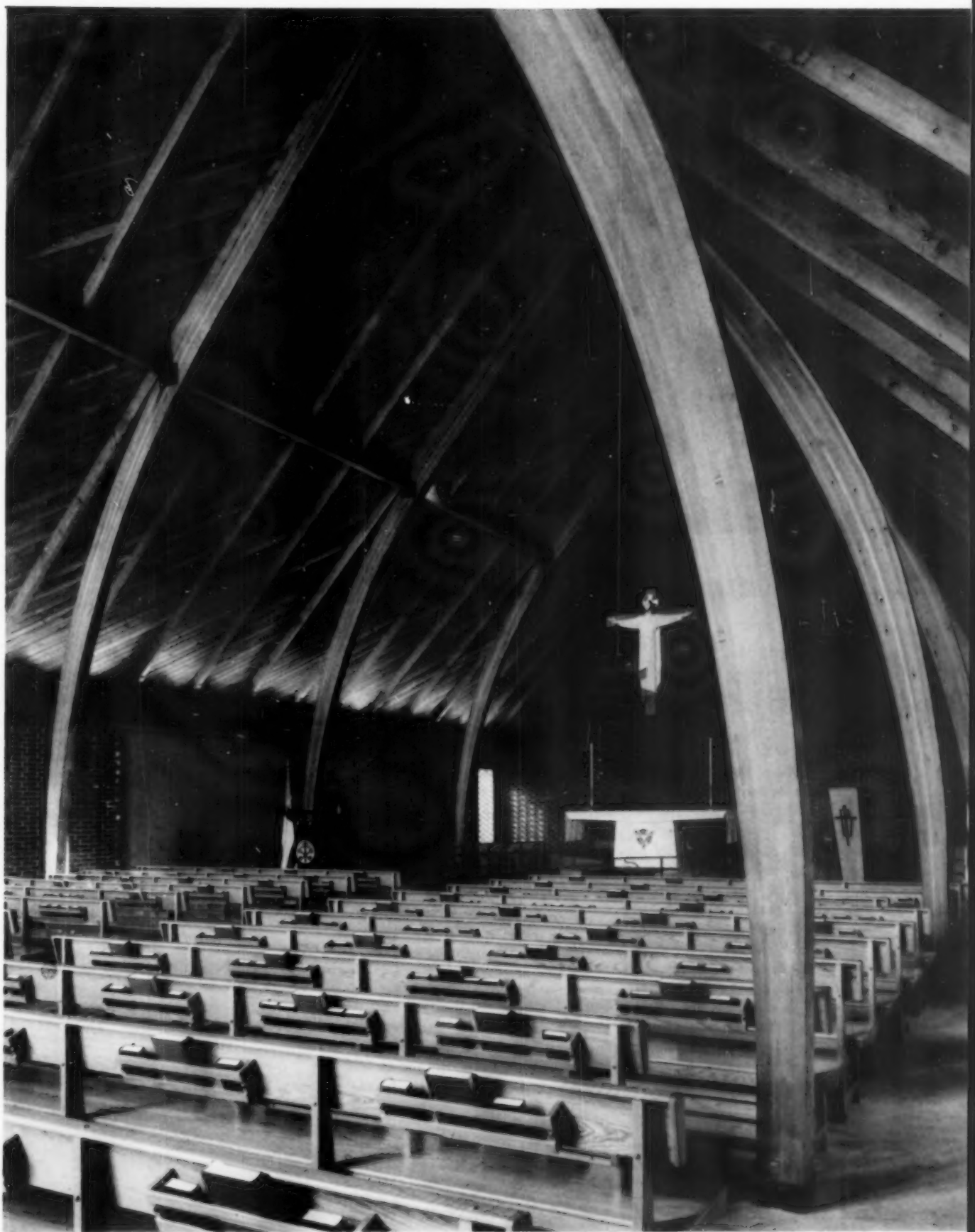


Free-standing altar (above) *has been placed at the intersection of nave and transept near north wall of brick. The south wall* (left) *is a large window in which clear glass and aquamarine-colored plastic panels are used alternately in saw-tooth fashion* (see SELECTED DETAILS). Photos: Douglas M. Simmonds

Episcopal Church

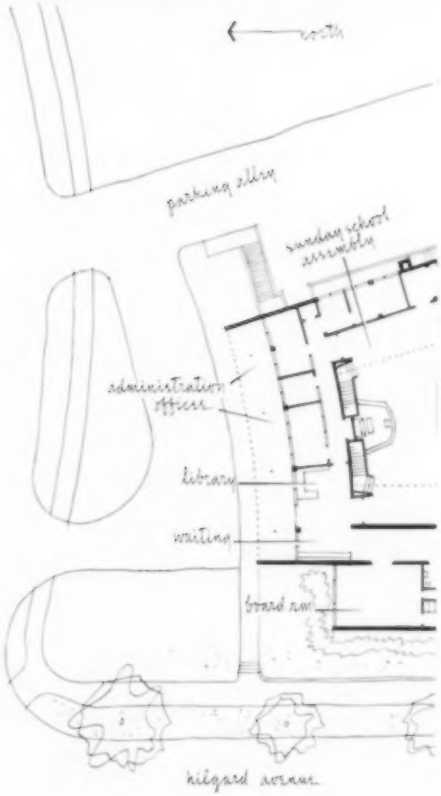


Lectern (left), *pulpit* (above), *communion rail, chalice, and patton were designed by Hudson Roysher. Albert Stuart designed and executed the polychromed Christus Rex above the altar* (below).



Christian Science Church

location | Los Angeles, California
architect | Maynard Lyndon



Design of the Twenty-Eighth Church of Christ, Scientist, in the Westwood Village district of Los Angeles presented the very specialized problems typical of churches for this faith. There would be no ceremonies, weddings, funerals, processional, etc.; nor does symbolism of any sort play a part. The requirements included an 800-seat auditorium, with attendant rooms; and space for offices, classrooms, and Sunday-school assembly hall. All elements, except the auditorium, are organized at the north end of the odd-shape site, in a remodeled building that had formerly served as the church.

Four types of meetings occur in the auditorium—Sunday services conducted by Readers, with reading, responsive reading, and music, but no sermon; Wednesday night services that consist almost wholly of testimonials given from the floor; public lectures by visiting lecturers; and membership meetings. Hence, in addition to providing a comfortable meeting hall with an atmosphere of repose, two paramount design factors were to emphasize the "audience to Readers' desk" relationship and to lay out the seating so that a speaker at any point in the audience could be readily seen as well as heard. Ingenious use of an existing site slope produced peaceful walled gardens, which are seen through windows at either side of the forward part of the auditorium.

The auditorium is of monolithic-concrete construction, with steel roof trusses and poured-concrete deck. Interior air is conditioned by a forced-air-heating system using gas-fired furnaces, washed air, and automatic controls. Artificial light, required at all times, derives from recessed ceiling fixtures with lens control of distribution.

A pierced screen and landscaped area protects the foyer and portico from the distractions of traffic at the street-intersection. Exterior walls are exposed concrete. Photos: Julius Shulman

Christian Science Church

The sunken, walled gardens at either side of the auditorium (acrosspage) *are hardly noticeable from sidewalk level; but from within they are an important element of the auditorium design. They are floodlighted at night.*

At either side of the macassar-ebony Readers' desk are marble panels with the traditional quotations. The walnut organ grill is made of removable sections, for possible removal or replacement of organ at some future time. Walls and ceiling are of dark, receding colors, to control visual dimension of the auditorium and enhance the apricot color of seats and carpeting.

Christian Science Church

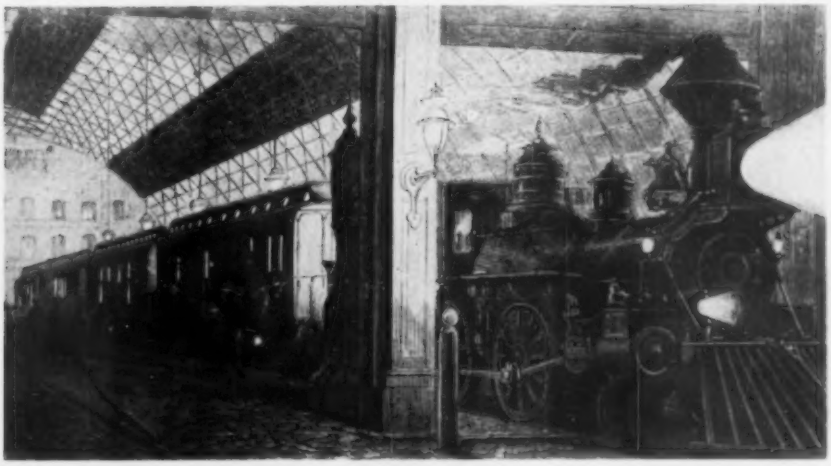
Connecting the remodeled portion of the building with the new auditorium is a broad loggia, curved to follow the line of the bordering street (below).

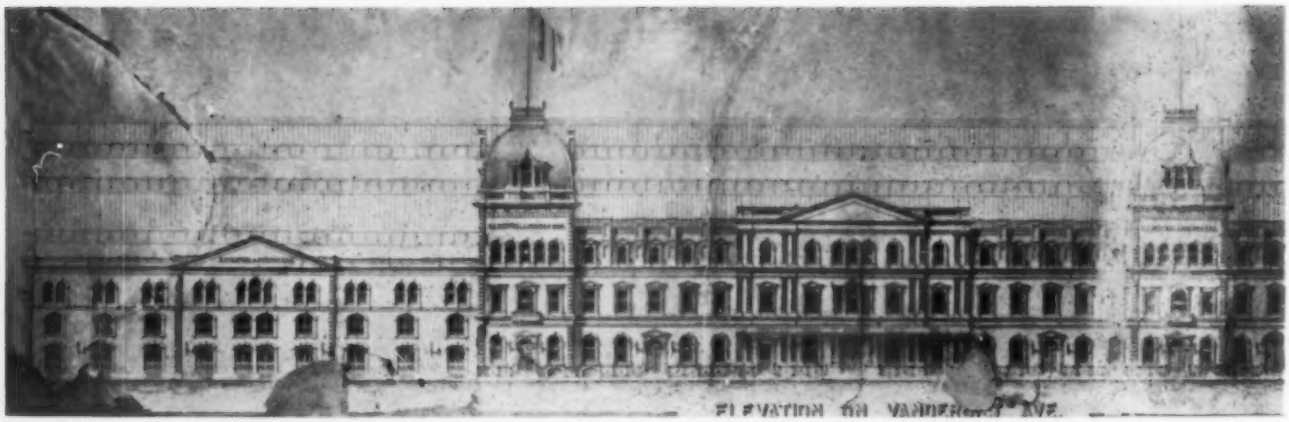
From a side entrance (right), *one looks through the large, south portico and to the pierced screen wall beyond.*

PROGRESSIVE ARCHITECTURE IN AMERICA

GRAND CENTRAL DEPOT—1869-71
New York, New York
John B. Snook, Architect
R. G. Hatfield, Architect-Engineer

New York Central System

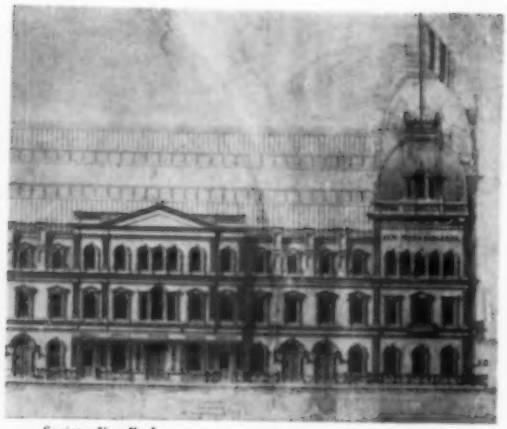




New York Historical

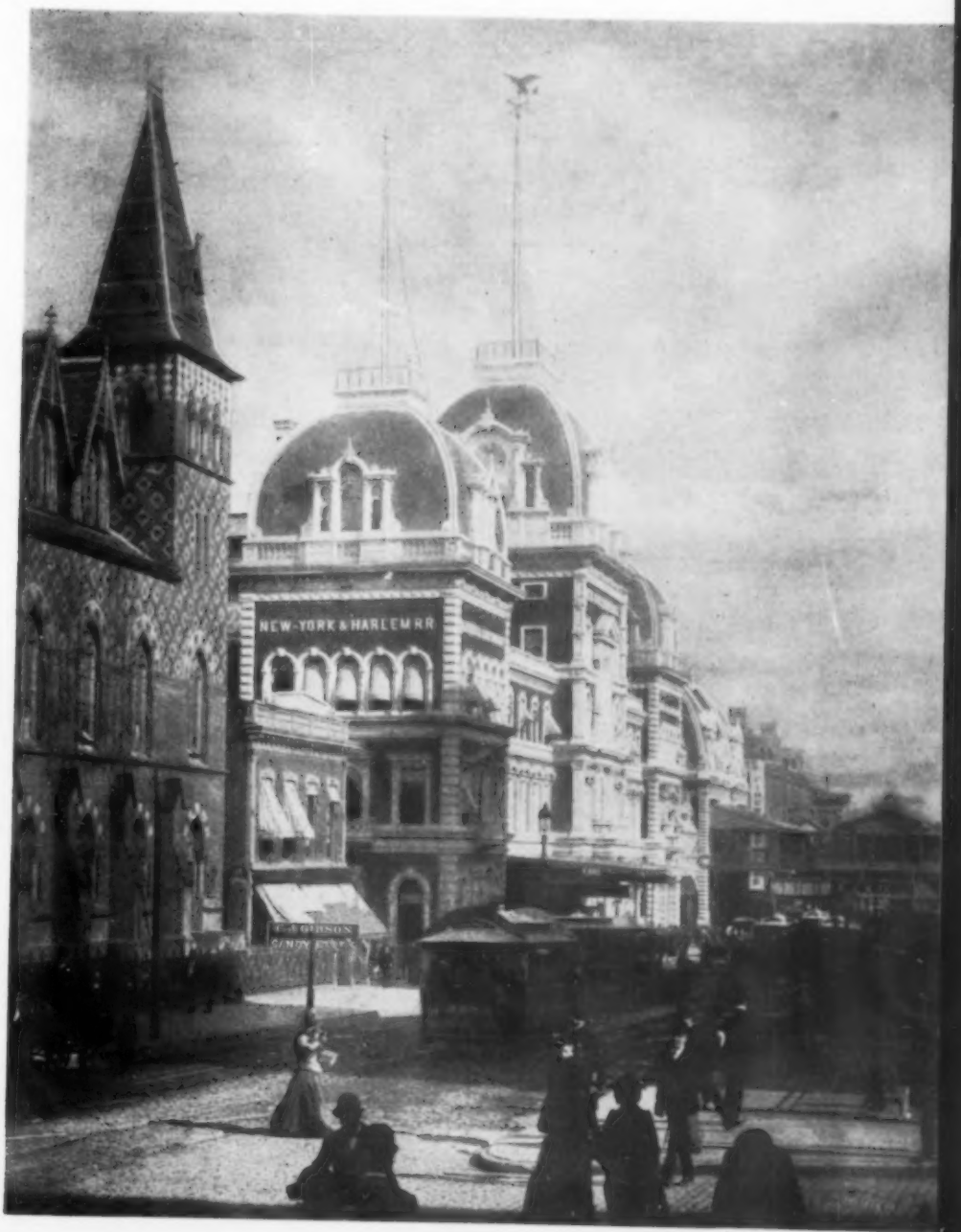
New York Central System

New York Public Library Picture Collection

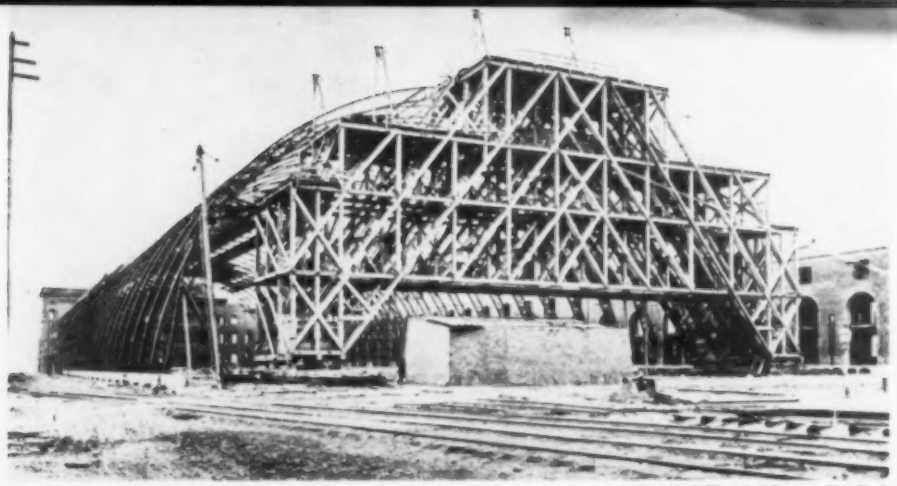


Society, New York

Second only to the Capitol at Washington in popular esteem at the time that it was built, New York's Grand Central Depot provided equal gratification for the two predominant Victorian tastes: love of progress and desire for pretentious display. The iron-framed train shed that formed the building's functional core represented one of the 19th Century's most important advances in building design. This spectacular structure was faced with the elaborate, conventional exteriors of the day, exuberantly embellished with mansard roofs and cast-iron trim.



New York Central System



New York Historical Society, New York

Museum of The City of New York

As transportation helped shape 19th Century American civilization, it also contributed to the country's architecture. No form better symbolizes the period than the railroad station. The iron-arched spans of the great train sheds were the product of the new industrial technology, their dramatically exposed, unadorned engineering the foundation of a new esthetic. Much of the phenomenon that is America today grew out of the steam and soot of the trains and terminals that characterized the Iron Age.

One of the most important of the new stations was the first Grand Central Depot in New York City, constructed at a cost of about $3 millions by that fabulous railroader, Commodore Cornelius Vanderbilt. Built on the site of the present Terminal, its impressive façades extended 249 feet along 42nd Street and 698 feet on the newly created Vanderbilt Avenue. A spectacular train shed (approximately 530 feet long, nearly 200 feet wide, and about 90 feet high) was enclosed by an L-shaped building on the south and west sides, which contained the separate functions of New York's three main lines: the Harlem, the New Haven, and the New York Central railroads.

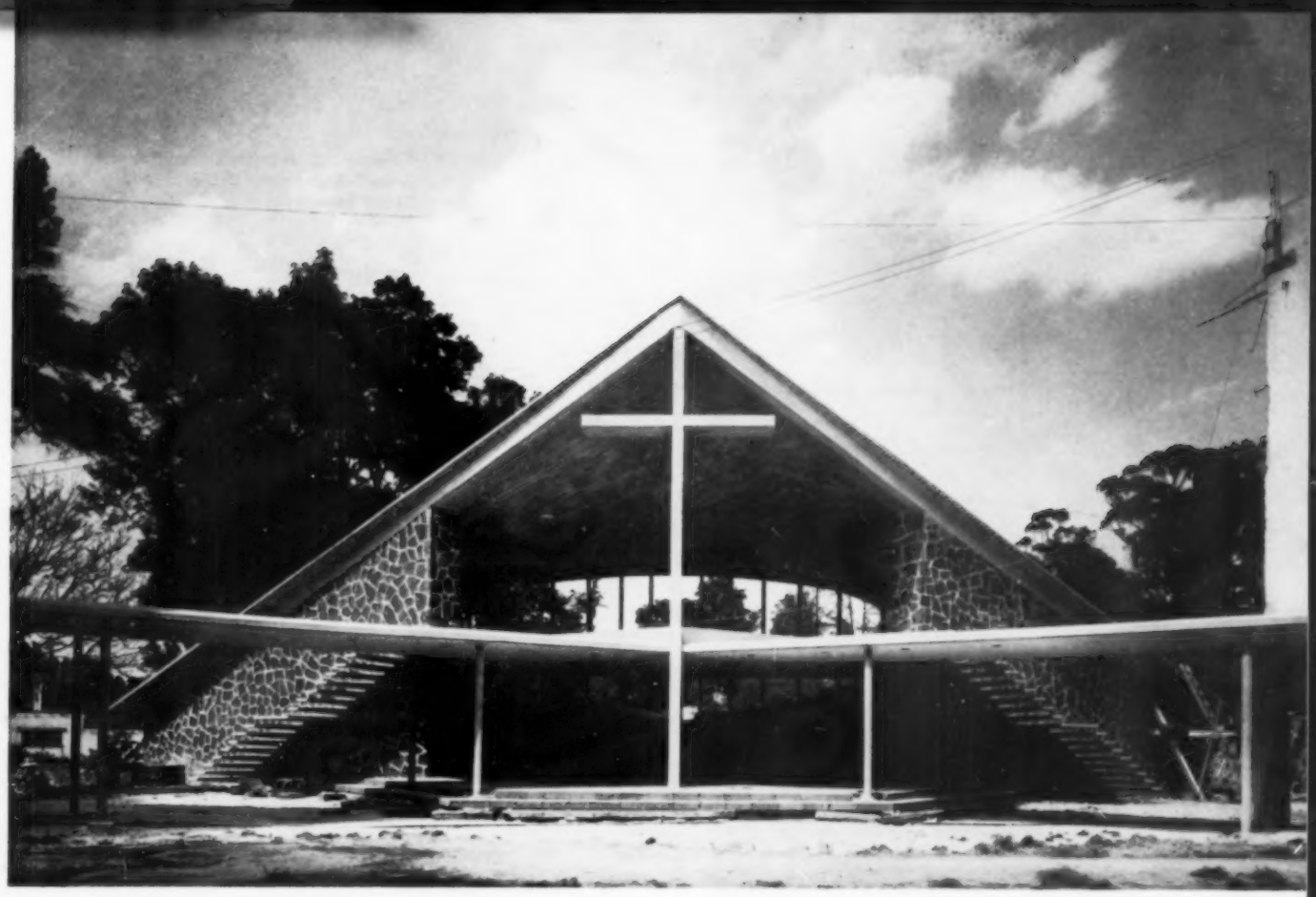
Preceded by the vast train sheds of Europe and the pioneering designs of England in particular, Grand Central Depot was by no means the most daring or progressive of the new railroad structures. For this type of building, American architects and engineers had learned most of their lessons abroad. Grand Central's span was 10 feet less than the 210 feet of London's St. Pancras, built in 1866, which it so closely resembled, and its passenger facilities were so poorly organized that a major remodeling of the administration building was necessary in 1898. In spite of these limitations, however, the Grand Central train shed was unique in America, a modern structural marvel that was the Commodore's pride and the talk of the country. According to Carroll L. V. Meeks, it was the largest interior in the United States at the time, successfully establishing the style for most of the huge single-span sheds that followed until the end of the century. Its handsome trusses were in the form of complete semi-circular arches springing directly from the ground, tied at the bottom by a rod enclosed in a pipe under the surface of the tracks. Designed by R. G. Hatfield, the structural frame was executed by the Architectural Iron Works of New York.

In addition to the trend-setting shed, the prevalent practice of bringing together several major lines in one central terminal was of increasing importance for growing American cities. The first Grand Central not only achieved this unification for New York, but also helped solve the problem of feeding the lines into a heavily populated city, by using depressed tracks along most of the length of Park Avenue. This was accomplished by lowering the grade from 49th Street on, a project begun belatedly just after the station opened in 1871 and not completed until 1876. The resultant system of tunnels and viaducts, eliminating street crossings, foreshadowed the underground planning of the present station, when complete lower-level enclosure became practicable with the introduction of the electric locomotive, permitting the tracks to be continued under the Terminal itself.

Stylistically, Grand Central Depot mirrored the great 19th Century schism between architect and engineer. As was so often true of new types of buildings, technical progress, though much admired, was carefully provided with an academic disguise. Utility, efficiency, and the new technology were well expressed in the impressive train shed, while formal architectural design was lavished on the rest of the building. Nothing could show this popular dualism more clearly than John Snook's elegant rendering of the Vanderbilt Avenue front, with the functional precision of the shed rising delicately behind the fussy Second Empire façade. In the taste of the day, these exteriors were of rich, red brick with generous, white-painted, cast-iron trim—imitating marble. By far the most interesting stylistic treatment was the vaguely exotic pattern of decorative tracery on the lower part of the arches of the shed. This detailing is strangely reminiscent of the unique forms developed by Matthew Digby Wyatt for London's Paddington Station in 1852, a self-conscious search for original ornament considerably preceding Sullivan's studies. It is in the structure itself, however, behind the conventional façades, that we feel the unmistakable vitality that was characteristic of the best architecture of the Victorian Age.

ADA LOUISE HUXTABLE

Pictorial and research assistance: Museum of The City of New York; New York Central System; New York Historical Society, New York; New York Public Library Picture Collection.



doubly-curved, thin-shell concrete slab for chapel

A new chapel—La Capilla de Nuestra Señora de la Soledad—for the seminary of La Orden de los Misioneros del Espiritu Santo[1] has almost been completed. Rhomboidal in shape, its plan was designed to accommodate participation of the entire congregation which during worship is aligned to the altar while executing Gregorian chants. This unusual form of structure is roofed by a graceful doubly-curved, thinshell concrete slab which is 118 ft in length and 95 ft in width.

In the base of the rhomboid, 350 individuals may be seated; a choir of 100 (composed of seminary students) flanks both sides of the altar in groups of 50. An elevated platform above the entrance—reached by steps flanking the exterior walls—supports an organ and choir.

Interior floors are uniformly laid with a variety of black volcanic stone known as "recinto." Exterior walls are also of volcanic stone but are of a rougher and not so black character. The window area behind the altar will be stained-glass and, eventually, indirect artificial lighting will be played upon the glass from both inside and out. No additional color will be applied to the interior.

Buildings adjacent to the chapel house other components of the seminary built in an earlier period. At a future date, some will be resurfaced in order to reduce the existing contrast in appearance between them and the chapel.

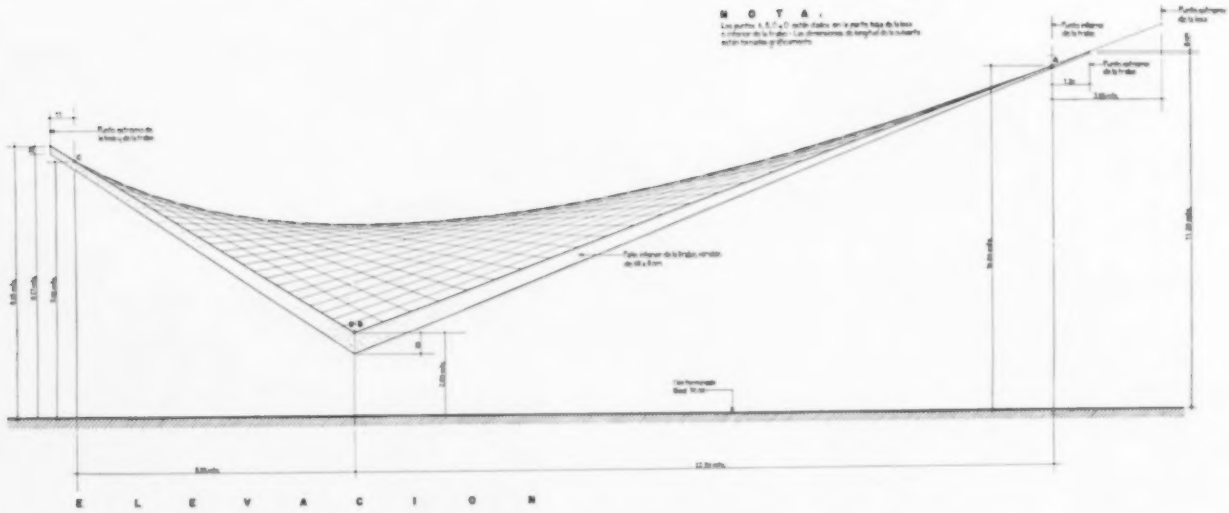
[1] *This is a young religious order, founded December 25, 1914, during a period of persecution of the Church in Mexico. The chapel is located at San José del Altillo, Coyoacan, Mexico, D.F.*

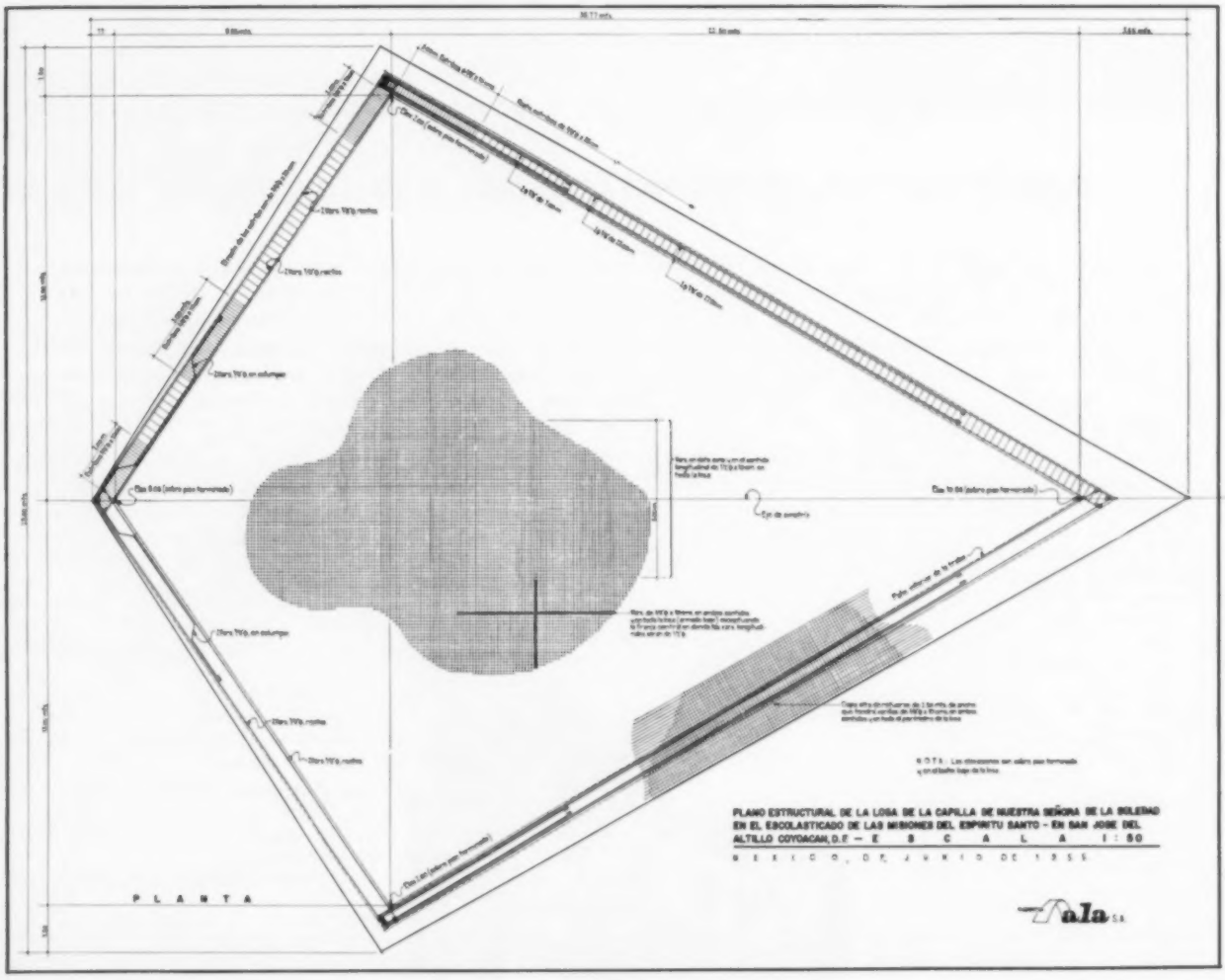
Typical of earlier structures in the vicinity is the baroque Iglesia de San Antonio which the seminary used formerly as its chapel.

Photos (except as noted): Erwin Lang

concrete slab for chapel

Elevation and structural plan of hyperbolic paraboloid drawn by Francisco Fuentes of Felix Candela's office.




PLANO ESTRUCTURAL DE LA LOSA DE LA CAPILLA DE NUESTRA SEÑORA DE LA SOLEDAD
EN EL ESCOLASTICADO DE LAS MISIONES DEL ESPIRITU SANTO - EN SAN JOSE DEL
ALTILLO COYOACAN, D.F. — E S C A L A 1 : 50
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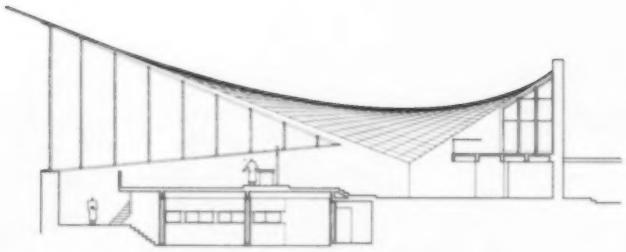
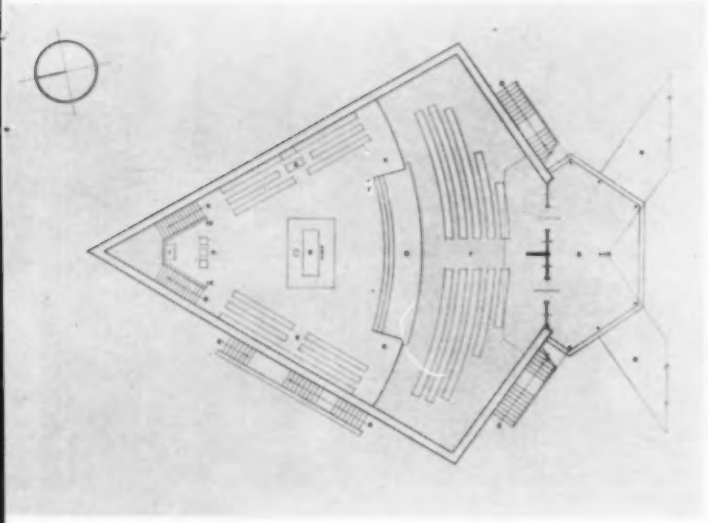
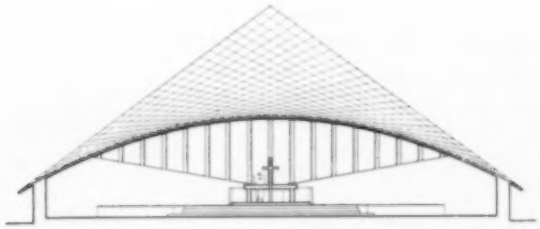
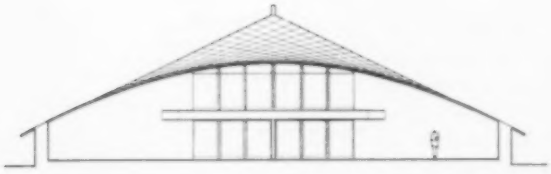








Sketches, prepared by Architect Enrique de la Mora y Palomar, indicate plan and various sections of the chapel: longitudinal section, looking east (top); *plan; transverse section to north; and transverse section to south* (above).

Progress construction photos (right) *illustrate several steps in the erection of formwork and placing of reinforcement for thin-shell concrete leaf that will roof the chapel.* Photos: Antonio Candela

concrete slab for chapel

the shell

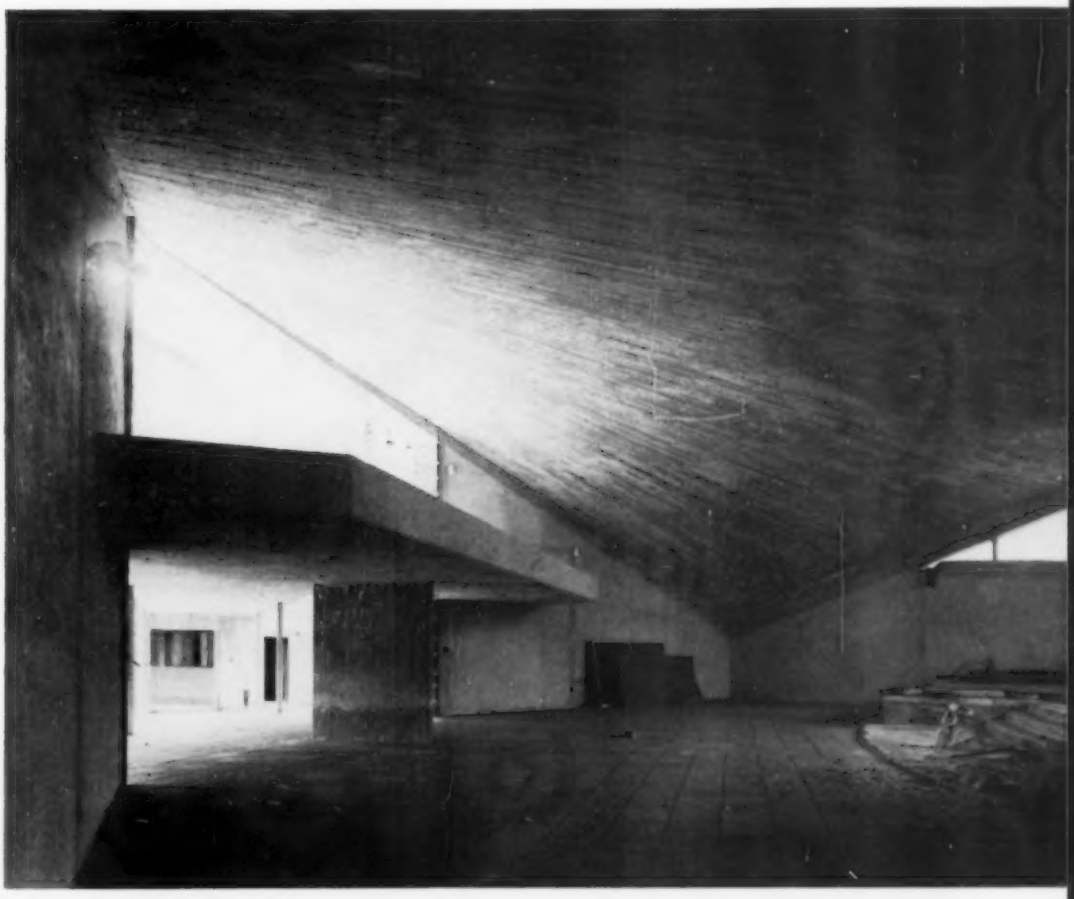
Calculations for the doubly-curved roof have been quoted by the designer as being "easy but complicated." No unusual problems were encountered with the construction itself and the normal sequence of forming, placing of steel, pouring, and removal of formwork proceeded without complications. (*See construction photos and July 1955 P/A for additional discussion of method.*)

Colin Faber, an associate of Cubiertas ala S.A., designers and erectors of the roof, describes its structural system as follows: "The structure is a single hyperbolic paraboloidical leaf, limited by straight generators. In this case the paraboloid's axis is not vertical (due to the rhomboidal plan), since the horizontal projections of the generators are not parallel. Therefore, the loads have components along three axes (that is the paraboloid's axis and the two generators intersecting at the crown), and this resulted in a more complicated analysis and longer expressions for the stresses. The problem was to annul normal stresses along both sides of the part in cantilever, there being nothing to counteract them there. As each generator acts like a tie-rod, it was possible to transfer these stresses to corresponding points in the opposite edge where they are resisted by the concrete wall working in bending. In other words, the structure is an asymmetrical double-cantilever supported at the two lower corners, and due to the unequal thrust of each cantilever, the shorter arm must be fastened to the wall. The only function of the vertical struts along the lower edges is to provide secondary support to prevent either upward or downward deflection, such as may be induced by temperature changes."

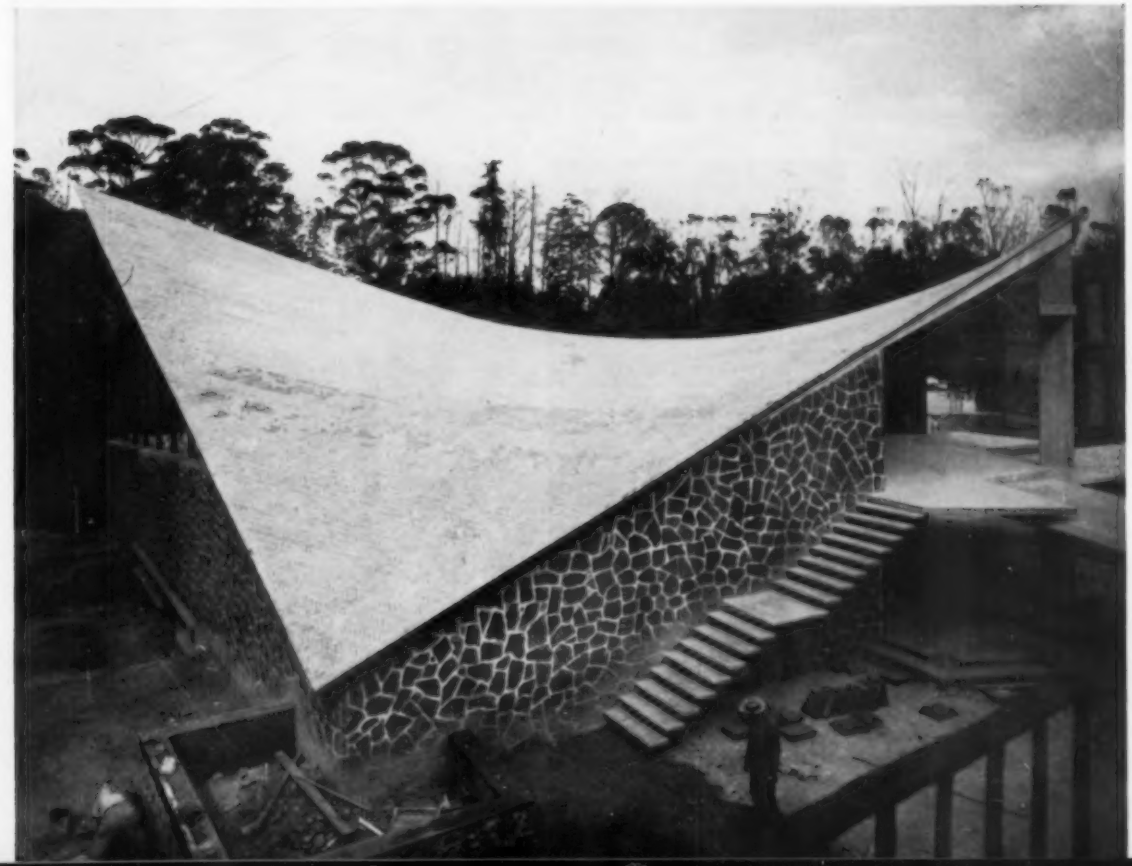
designers

Architect: Enrique de la Mora y Palomar; structural design and calculation of shell: Felix Candela; design and execution of substructure: Wolfram Oehler; sculpture and windows: Herbert Hoffman Issenburg.

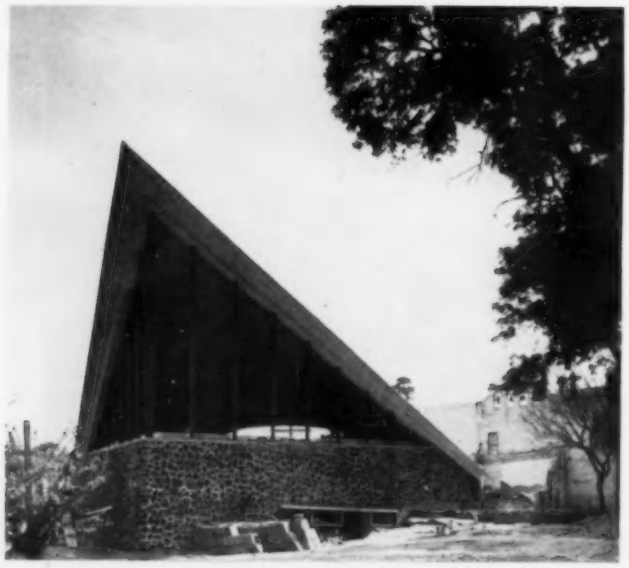
Elevated platform (right) *supports choir and organ.*



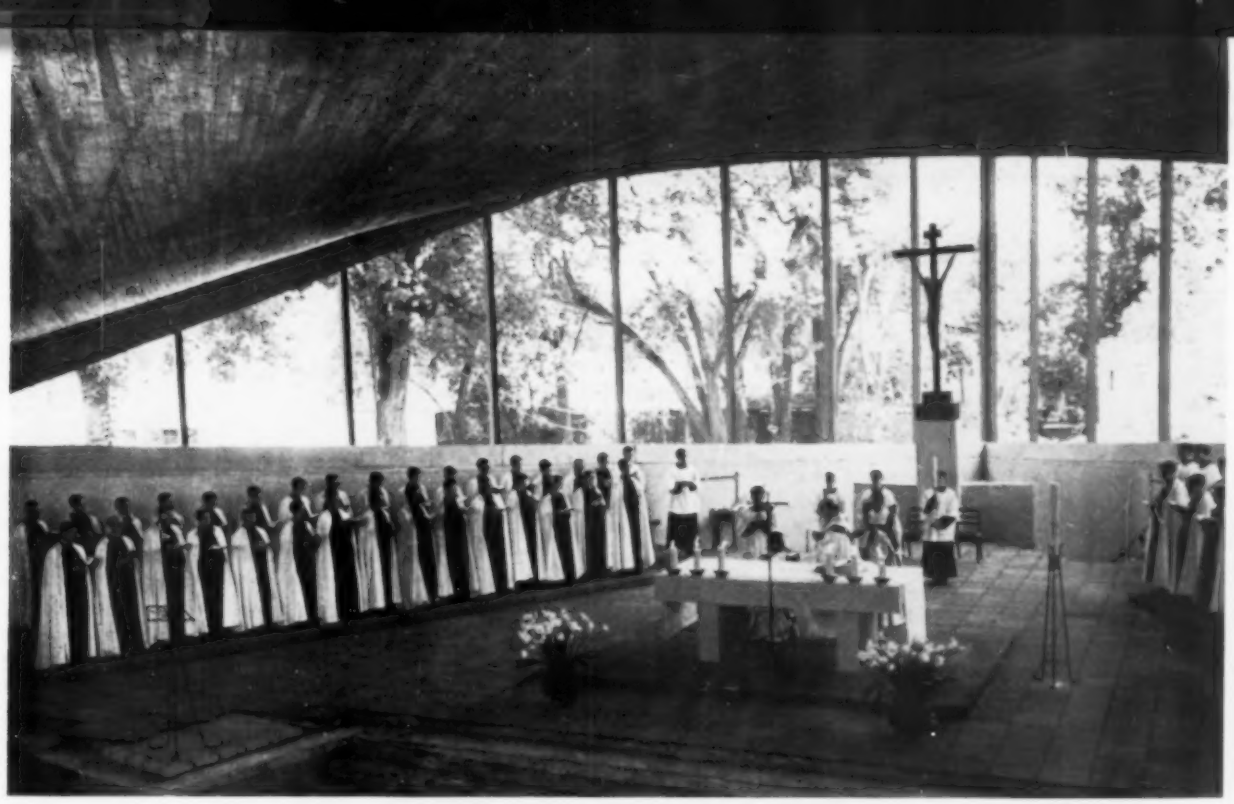
Herringbone pattern on roof (below) *is made by waterproofing tile. Each brick-red tile lays parallel to one of the systems of generators.*



concrete slab for chapel



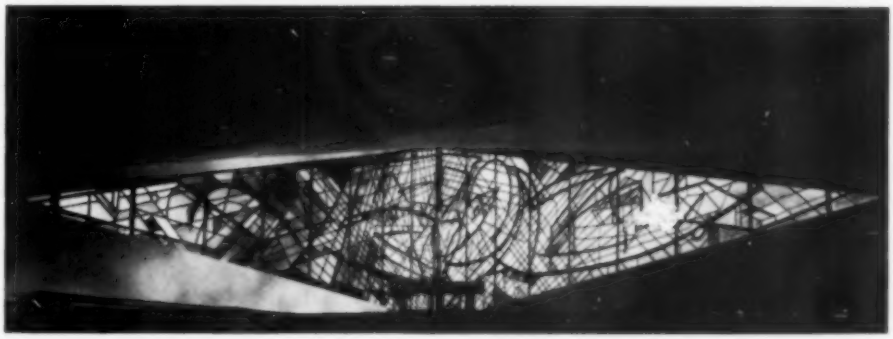
Struts only provide secondary support to prevent upward or downward deflection that might be caused by temperature changes.



Services at High Mass last Easter Sunday (above).

Acoustic tests, made at current stage of construction, proved the interior to be very satisfactory for good hearing conditions; further experimentation is contemplated after installation of stained-glass.

Model of stained-glass window behind altar (right).



cold-glazed cement finishes

by Guy G. Rothenstein*

After the appearance of a variety of excellent plastic wall finishes during the past 10 years, one now observes the comeback of the age-old material "cement" in the form of a cold-applied, colorful, glazed, surface finish. This development has become possible through advanced cement chemistry, combined with the use of contemporary tools, and these finishes are available factory-applied to cinder or concrete blocks as well as site-applied to almost any surface.

Cold-glazed cement finishes consist essentially of portland cement, graded silicas, mineral pigments, and special organic hardeners which create a surface glaze[1] under the physical action of the application process. The glaze is rendered permanent by retarding the curing with the application of a very thin temporary sealer which retains moisture in the concrete until ultimate curing is attained. Thus, the only function of this sealer is to help cure the mixture under ideally slowed-down conditions, and the result is a glazed finish of maximum hardness. The sealer eventually disappears with no change in appearance of the finished surface.

The application involves a series of steps which will be described later. The end product obtained is a highly decorative, extremely hard, wall finish with tile-like qualities and monolithic appearance; which, besides factory applications to blocks or panels, can be applied in the field to surfaces of any size and shape.

history

Cold-glazed cement finishes are relatively new in the Western Hemisphere, although they have been used for decades in Europe in a somewhat less-perfected form than they are now available here.

The process actually originated with the manufacture of cement tiles, which were competing on the European market with ceramic or vitreous-type "fired" tiles. Through the process of making cement tiles it was learned that the natural glaze, which occurs often in a spotty manner in any troweled cement finish, can be evenly controlled and rendered permanent with the aid of chemicals and proper techniques. Patents on the cold-glazed process were issued as early as 1908 in Germany, and the last patent for an improvement to it was issued in 1949.

Installations on this continent date back to 1932, the oldest being in Canada. Up to the present time, these have all been site applications and recent examinations have indicated that their freshness of color and glaze are equivalent to the original condition and that the hardness and durability have improved with age.

This finish has been used extensively in hospitals, schools, dormitories, and industrial and commercial buildings.

properties

Inasmuch as the materials used are essentially cementatious mixtures, manufacturers apply the principal well known cement-performance data. Specific data compiled from field and laboratory tests which apply equally to glazed blocks are shown (*Table I*).

The factors influencing the appearance are: texture of the base material (if any); texture of the cold-glazed cement —its sheen, its color, and the quantity, shape, and size of the spatter-color particles and their degree of fusing with the base color. The number of combinations of these influencing factors is almost infinite to create extraordinary decorative effects and, while research in this field had been somewhat neglected, one manufacturer is presently engaged in a thorough program to improve available pattern and color combinations. The monolithic appearance permits interesting architectural treatments and the possibility of color change for base or spatter coat for different walls within one area adds to the decorative qualities of the material. While plain colors are available, the spatter or multiple-color patterns may be considered as almost necessary to give the material the desirable quality of "depth," and hide imperfections. If the material is field applied to masonry, the joints, while completely covered, can still be seen and form a rather subtle pattern on the wall.

field-applied uses

Techniques of field application vary with the different systems on the market. All, however, involve a series of steps ranging from wall preparation to single or multiple-color brush and spray applications. In addition to the hardening agent used, water-spray applications are required, the number depending on the humidity conditions. The last step is the application of a sealer or impregnator coat, spray applied in order not to upset the reaction after the particles have been deposited on the surface. Bonding is obtained both chemically and mechanically, depending on the nature of the surface.

The initial curing to make an installation usable is a matter of 24 to 48 hours after completion of the application which itself takes from two to four days, depending on the system used and atmospheric conditions. The complete cure to obtain maximum performance takes from weeks to months—as a matter of fact the properties of the finish keep improving, often during periods of several years.

Since the material is monolithic in structure, it cannot be separated from its base. It can be applied on wall surfaces of any size and shape, and will last as long as its base. Areas up to 3000 sq ft have been covered without expansion joints and no cracks have appeared on the surface.

Cold-glazed cement can be applied to any type of wall surface which is of a solid-rigid construction and in which

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* *Designer, New York, N. Y.*

[1] *In the cold-glazed cement-finish industry the glaze is described by one manufacturer as a natural one—the result of a controlled process whereby the water of crystallization and cement particles appear on the surface; another manufacturer defines his glaze as a colloidal film of the cement, itself, as a result of the chemical action of the compounds used in the mix.*

there is a normal amount of expansion and contraction. A great number of materials such as concrete, all types of masonry, stucco, plaster, fiberboard, and even wood and metal can be used as a base surface for the material. The fact that the thickness of the finish is only 1/16 in. will save up to 2 in. of floor area compared with other facing materials.

Outdoors, cold-glazed cement finishes have very interesting possibilities when applied to structural concrete or other materials as protection and as a decorative finish. While this finish will not prevent settlement cracks from occurring in the concrete, it will prevent damage by early exposures of concrete to the effects of weathering before the concrete has reached its maximum strength and resistance.

Since cold-glazed cement breathes, water under hydrostatic pressure presents no problem. This would seem to indicate that glazed block will be suitable for underground applications such as tunnels, subways, etc., where few materials have stood up previously.

Table I: Properties of 1/16" Thick Cold-Glazed Cement Finishes

Adhesion:	The material forms a monolithic structure with other cement-based base materials, such as concrete (especially if green), concrete masonry, stucco, etc. On noncementatious surfaces a base coat containing chemical neutralizers and a silicate bond material is required.
Elongation: **Tensile strength:** **Flexibility:**	Same as cement.
Abrasion:	Surface gloss was removed in a Taber Abrasion Test, but no loss of color or pattern was noted. The opinion of the testing laboratory was that the product would be satisfactory for foot traffic, although use as flooring is not proposed by the manufacturer.
Shock resistance:	Same as high-strength cement.
Water absorption:	Bricks covered with a cold-glazed cement finish immersed in water absorbed 0.3 percent in 24 hours; no increase for longer immersion.
Accelerated weathering:	A cement slab covered with cold-glazed cement finish was placed in an Atlas Weatherometer for a period of 2500 hours (equivalent to 18-20 months of outdoor exposure). No effect, except for removal of the temporary sealer.
Light fastness of different colors:	Good.
Heat resistance:	No effect at 120F after exposure of several days.
Fire resistance:	Incombustible.
Chemical resistance:	Excellent for acetone, methanol, xylene, butanol, caustic soda five percent, soda ash five percent, trisodium phosphate five percent, sodium metasilicate five percent, sodium hydroxide six percent. Very good for sodium hydroxide 30 percent. Fair to good for acetic acid 10 percent. Fair to poor for acetic acid 50 percent. Fair for hydrochloric acid 10 percent. Poor to fair for hydrochloric acid 50 percent. Poor for nitric acid five percent, sulphuric acid five percent, lactic acid five percent.
Washability:	No effect after more than 100,000 cycles of washing in a washing machine with bristle brush and an alkaline soap solution.

factory-applied uses

Of various possible factory-applied uses of cold-glazed cement finishes, the first one available is concrete-masonry blocks of various standard thicknesses and sizes. While the field-applied finishes, especially on vertical surfaces, always have a slightly textured surface, factory-applied cold-glazed cement finishes may be rendered smooth through vibration in the horizontal position. This also produces a very dense and extremely hard finish after curing under controlled thermal conditions. A greater degree of color control is also possible in factory applications on block or panels.

Unlike various kinds of blocks on the market which have natural or synthetic "laminated" finishes, the cold-glazed finish forms a monolithic structure with the block itself, with a slight return of the glaze at the edges. These blocks are easy to handle during shipping and very easy to set. Their cost installed is lower than that of any finished block or tile material.

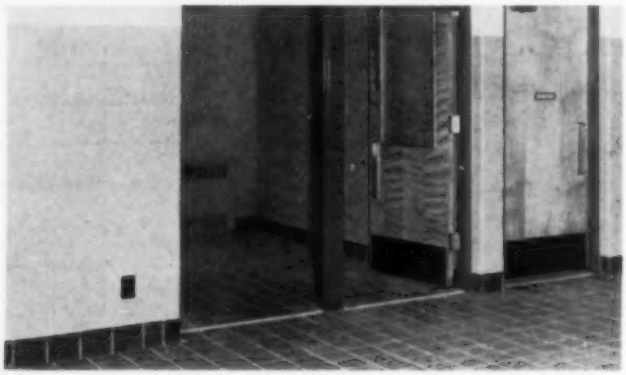
Among the blocks available with this integral finish is an 8-in. thick "cavity-wall block" glazed on the outside. This block permits laying up a cavity wall in a single operation with a highly decorative and colorful glazed finish. Plaster can be applied on the inside directly to the block without furring because of the excellent insulation factor of this block and the watertightness of the finish.

cost

As indicated earlier, the prime usage has been and will increasingly be in the area of interior-wall finishes. Generally, cold-

Application of "splatter" coat of cold-glazed cement with gravity-fed spray gun (left). Photo: Vitricon Corp.

Cold-glazed cement field applied to block in school corridor (below).
Photo: Cement Enamel Development, Inc.



glazed cement finishes have been used in areas subject to hard wear, moisture, and where frequent washing of walls is desirable. These areas include lobbies, corridors, swimming pools, bath and shower rooms, work areas, and the like.

Cold-glazed cement finishes are priced at 60 to 80 cents per sq ft installed which puts them approximately half way between the cost of paint and tile.

From the point of view of performance they are very close to that of tile with the advantage that joints may be concealed.

Therefore, this material has been used mostly in lieu of tile with resultant savings that have enabled architects to provide permanent, hard-wearing wall finishes on reduced budgets. In many cases, architects have obtained floor-to-ceiling height installations rather than wainscotes without any increase in cost. Cold-glazed cement finishes can also be applied to ceilings and soffits.

Now that finishes are available on concrete block, the cost of a finished wall will be even less. The major use anticipated initially is for partition block. The cold-glazed finish will only add about 25 cents per sq ft to the cost of the block, as marketed by several block manufacturers producing such blocks under a licensing arrangement.

This can be compared with plastic-faced concrete blocks of various types which add from 50 to 80 cents per sq ft to the cost of the block, and the cost of ceramic tile which adds as much as $2.00 to $2.50 per sq ft.

equipment and application

The application of cold-glazed cement finishes is a new craft, although the process itself is not new. Field work is contracted for by applicators licensed by the manufacturers, and franchises for many areas in the U. S. are still open. The work is performed by specially trained union-affiliated mechanics.

Used as an interior-wall finish, it is desirable that the material be applied to walls after all construction work has been completed and before heating grills, radiators, and plumbing fixtures are installed. Decorating—such as painting, varnishing, and paperhanging—should be carried out after the installation. Permanent-type floors such as concrete, terrazzo, and tile should be completed before the installation, but floor coverings, including linoleum, rubber, and mastic tile should be installed after application. All terminating edges should be masked and the usual precautions taken to protect the work of other trades.

Used outdoors, one limitation may be the prevailing weather condition at the time of the application. The material should not be exposed to rain for at least 12 hours.

The mechanical equipment used in field applications consists of compressor, hoses, gravity-fed spray guns, etc. This is compact, inexpensive, low-power equipment.

future

Unlike many new finish materials which have appeared in recent years, this one has the virtue of not attempting to imitate the appearance of other materials. (Architects are weary of metals made to look like wood, wood treated to look like metal, and plastics trying to look like any conceivable material under the sun, except plastics.) While small sample panels of cold-glazed cement finishes have a certain resemblance to mottled tile, the effect on the wall is quite different through the absence of joints which gives the material a warm and "uninstitutional" appearance. The material follows all shapes and contours, opens interesting design possibilities for curved, rounded, concave, or convex surfaces.

Economies in wall and partition construction can be obtained if the designer takes full advantage of all properties of this material in the selection of the materials to which the finish is to be applied.

Undoubtedly in the future cold-glazed cement finishes will be put to many more interesting and imaginative uses in the hands of architects, engineers, and designers.

The author wishes to acknowledge the assistance of the following organizations which furnished technical data for this discussion: Vitricon, Inc., Long Island City, N. Y., for Vitricon; Cement Enamel Development Inc., Detroit, Mich., for Cement Enamel.

floodlighting for buildings

by A. H. Clarke*

It's almost axiomatic that an interesting building deserves floodlighting. The greater its architecture, or the more important its use or purpose, the more effective it will be when illuminated. The attractive byplay of lights and shadows over a building's surfaces—so evident in bright daylight—can be heightened even more at night.

Most architects recognize this axiom but haven't fully investigated the means by which it can be applied. The purpose of this article is to cover those means by (1) determining what esthetic effects floodlighting has upon building exteriors, and (2) to discover how these effects are produced.

It is not just because floodlighting is within the architect's province that he needs to know more about it; exterior floodlighting of buildings is a new chore for many architects today. Increasingly, owners of both public and commercial structures are employing floodlighting as a dignified means of advertising. It has become profitable to emphasize to customers or the public the daytime activities within a building, by calling attention to it at night.

Actually the first technique—determining the over-all effect of floodlighting on the structure—may already have been perfected by the architect. By designing a building to fit a particular need, or to occupy a certain terrain, he creates a particular emotion and visible meaning that is instantly obvious. As a work of architecture, therefore, the building dominates its setting by exemplifying its true form and purpose. Yet, because the building is bathed in light during the day, it normally vies to some degree with its surroundings for the notice of passers-by.

Adequate floodlighting achieves the revelation of this form and purpose under conditions that illuminate only the building. By successfully funneling a limited amount of light upon a structure, floodlighting produces intense brilliance—almost theatrical in effect—which emphasizes the façades of the building far more than anything situated next or near.

But this effect is not obtained just by highlighting the building. Faulty illumination can destroy the basic form and depth of the structure. To prevent this, recognition must be given not only to the use of correct floodlighting techniques but also to suitable floodlighting equipment.

Illumination levels

The problem of floodlighting a building multiplies if the building ill affords the means by which floodlights can be mounted and concealed. When determining the lighting level, the designer should follow this simple rule: the over-all impression of the floodlighting must often reveal the actual texture of the building surface. This measurement generally is based upon the nature of the building's surface material and the amount of light surrounding it. A guide in selecting specific levels of illumination is shown (*Table 1*). Footcandles recommended should be maintained in service. For average conditions a depreciation factor of .75 is allowed. This factor is higher in grimy locations or where maintenance is infrequent. Percentage utilization of the light produced by the floodlights is still another factor; this can vary from 80 to 50 percent, depending where the floodlights are located with respect to the area lighted.

Layout design and selection of floodlight reflectors and lenses should provide multiple, overlapping, light beams. At least 100 percent and greater overlap creates completely uniform illumination and prevents the failure of one or two lamps from affecting the over-all lighting pattern.

If a building has a series of setbacks, it's considered desirable to illuminate the top brightly and permit the light to diminish progressively downward to the lower levels. This crown-of-light effect is impractical, however, for tall buildings that must be lighted from narrow ledges or setbacks. Better total effect is always the result of highlighting the building's architectural features as efficiently as possible.

* *Vice-President of Engineering, Crouse-Hinds Co., Syracuse, N. Y.*

Table 1: Recommended Illumination Levels for Floodlighting**

Surface material	Reflectance (percent)	Surround bright (ft-c)	Surround dark (ft-c)
Light marble, white or cream terra cotta, white plaster	70-85	15	5
Concrete, tinted stucco, light-gray and buff limestone, buff face brick	45-70	20	10
Medium-gray limestone, common tan brick, sandstone	20-45	30	15
Common red brick, brownstone, stained-wood shingles, dark-gray brick	10-20	50	20
Poster panels and bulletin boards	Light	50	20
	Dark	100	50

**Illuminating Engineering Society Lighting Handbook.

mounting locations

One word describes the ideal placement of floodlights—inconspicuousness. Besides prime esthetic reasons, this feature eliminates the possibility of glare within the viewing field of persons observing a floodlighted building. It is mandatory that floodlights be concealed by artful landscaping, fences, or walls. Besides ground mounting there are three other locations that cover most floodlighting installations: (1) on poles; (2) on adjacent buildings; or (3) on building ledges or setbacks.

Pole-mounted floodlights fit only certain situations. Besides having a distinctive appearance, they must be integrated with the general design of the strucure they illuminate. Such units should also be located so as to highlight the building as the dramatic center of attention.

There are a number of advantages to using the roofs of adjacent buildings as mounting locations: lighting units are obscurely located, ample space is usually available for floodlight equipment, and, because aiming angles are more favorable from such locations, fewer floodlights cover greater areas and provide more uniform illumination.

Where none of the preceding locations is practical, equipment can be mounted on portions of the building itself—such as marquees, setbacks, ledges, or tiers.

selecting equipment

Floodlighting equipment mounted on buildings is the "heavy-duty" type. Floodlight housings and mounting accessories are usually noncorroding cast-aluminum alloy. Designed for long life with a minimum of maintenance, these floodlights are available in a wide range of reflectors and lenses. Incandescent searchlights should be kept in mind for accenting distant, important points of structures. Also of cast aluminum, searchlights for buildings are available in sizes from 12-in. to 36-in. mirror diameters.

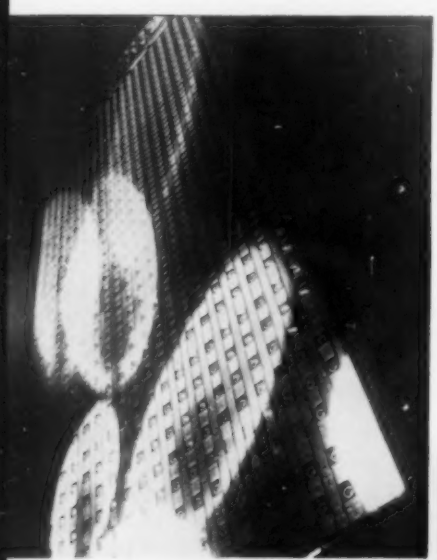
For applications requiring special fixtures, there are several practical types on the market. Ornamental lanterns, closely resembling a street lantern, have an inner-floodlight optical system which can produce either narrow- or wide-beam lighting patterns. Another special fixture is flush mounted in ceilings and walls.

lighting patterns

Patterns of floodlighting are created by a combination of two optical elements —reflector and lens. The reflector produces symmetrical patterns that can be either narrow or wide. The lens or cover glass merely modifies this basic pattern.

But further modifications are obtained by using particular types of lamps. "Floodlight-service" lamps, which have the greatest filament concentration, provide narrow beams for long-range projection. Equipped with larger filaments, "general-lighting-service" lamps provide short-range projection.

Lamps for floodlighting must be clear, not frosted inside. Such lamps provide a

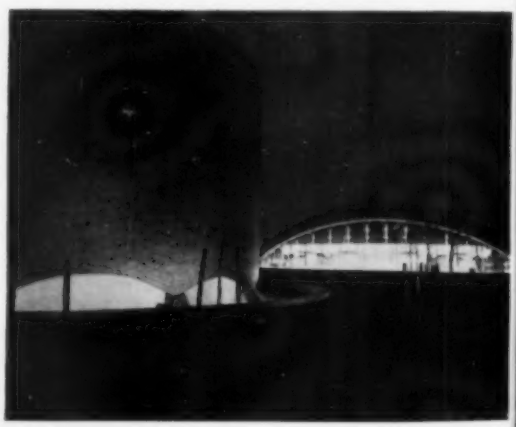


American Iron and Steel Institute

During Christmas week last year, both fixed floodlights and giant searchlights were played on New York's Socony Mobil Building (left). *The 10-billions-candlepower light on the stainless-steel facets was softened and divided into myriad small lights when reflected on walls of surrounding buildings.*

Night view of the United Nations Buildings shows floodlights on marble walls of General Assembly Building. Fixed floodlights can also illuminate glass-surfaced entrance walls of this building.

Gradation of light on brick surface of MIT Chapel accents the reposeful character of the structure. Mullions in glass façade of auditorium (background) are defined with downlights.



Ewing Galloway

much larger and more diffuse light source and enlarge the beam pattern. The following five lenses meet most floodlighting needs:

1. *Plain*, used where a concentrated beam is needed.

2. *Smooth beam*, produces a uniformly bright but narrow beam.

3. *Diffusing*, illuminates large areas at relatively short range, spreading a beam both vertically and horizontally.

4. *50-degree spread*, forms asymmetric pattern with wide spread in one direction and minimum spread in the other.

5. *100-degree spread*, produces a light pattern as much as twice the width of a 50-degree-spread lens.

floodlights—how many and how big

The best way to determine the number and sizes of floodlights required is to lay out the building to scale and calculate the lighting from distribution curves. These curves are obtainable from a floodlight manufacturer for the asking. By superimposing curves on the building, the proper amount of light for each part can be earmarked.

As an approximate guide in determining load required, the wattage per sq ft of building surface for each footcandle of illumination under varying operating conditions is shown (*Table II*).

light sources

The most widely used floodlighting source for building is the incandescent lamp. Although mercury-vapor and fluorescent lamps are used on a limited scale, they have certain disadvantages. The mercury arc is a relatively large light-source and, as such, is difficult to shape into normally required beam patterns. Also, its bluish-green light is not suitable for some building materials.

Like the mercury lamps, fluorescents are large sources of light, factors which make them more difficult to control. But for lighting long, narrow areas from short ranges—such as the tops of buildings—or to highlight a building along one elevated, yet narrow, ledge so as to create a "coronet" effect, while leaving the rest of the building in darkness, fluorescents are extremely practical.

But the big advantage which the incandescent lamp enjoys over mercury or fluorescent lamps is its concentrated filament. Where light must be projected to a distance and confined to a limited area there is still no substitute for the incandescent lamp.

color floodlighting

Floodlighting's inherent dramatic effects are heightened by the addition of color. The eye-catching attractiveness of a floodlighted building is much greater and its advertising effect more effective if floodlighted in attractive colors. Sometimes color is used only on special holidays. To do this, the original installation must have sufficient units, wattages, and provisions for the addition of color screens. Color screens absorb a high percentage of light and while complete allowance for the percentage of absorption is not necessary the following wattage multipliers must be used to obtain the equivalent advertising effect to an already determined level of white lighting:

	Multiplication factor
Amber	1.5
Red	2
Green	4
Blue	6

When choosing a color, remember that it must accentuate the color of the building. Only a white surface can be floodlighted in any color and it is usually the best surface over which to play the beams of a color-cycling device. A red-brick structure should be illuminated only by a red light and at a high level. Buff-colored buildings of brick can be highlighted in red or amber. Gray-hued buildings can be lighted with green or blue.

With or without color, good floodlighting techniques should strive for a pleasing total effect. To do this, a floodlight must make a building appear as beautiful at night as it does in the day, and bring about this extension as economically and practically as possible.

Table II: Watts Per Sq Ft of Building Surface for Each Ft-c of Illumination

Average conditions—short or medium range; medium- or wide-angle projection	.2 to .25
Less favorable conditions—long range, narrow or small areas; medium- or narrow-angle projection	.25 to .33

Where glass becomes a major part of the curtain wall, high illumination level within building—as at General Motors Technical Center (below)*—can be successfully employed to call one's attention to the structure.*

G. M. Photographic

in France, too...

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Jean Vafiades of Marseilles, France, is respected throughout Europe as an outstanding artist in floor design and installation. One of his best known achievements is this exquisite wood parquet floor in the reception room, prefecture of the administrative district of the Rhone Delta.

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M. Vafiades is official Hillyard representative and distributor for Hillyard products in Southern France.

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Finishing Concrete Floors to Receive Resilient Flooring

by Harold J. Rosen

In an effort to reduce construction costs in these times of spiraling prices, it might be well to analyze more carefully some of the traditional construction practices to determine whether they have any merit and whether other solutions might not be more practical and economical.

How do you prepare structural-concrete slabs to receive resilient-type flooring? Acres of resilient-type flooring materials—such as asphalt tile, linoleum, rubber tile, vinyl asbestos, homogeneous vinyl, etc.—are specified to be laid on structural-concrete floors. In many instances, separate cement toppings (varying between ½″ and 1½″ thickness) are placed over the structural-concrete slabs and then troweled to receive the resilient-type floor coverings. Many arguments are advanced to perpetuate this costly construction operation. Some of the reasons given for this method of construction are as follows:

1. If the concrete floor slab is to be finished immediately, it might be damaged by other trades before the floor covering is applied.
2. Cement finishers might have to be paid overtime, in order to finish concrete floors the day the concrete is placed.
3. Protective coverings might have to be used in rainy weather in order to protect finished concrete floors.
4. Separate cement toppings are necessary in order to allow for recessed sanitary-cove bases, such as terrazzo, ceramic tile, glazed structural facing tile, or architectural terra cotta.
5. Steel-troweled surfaces are necessary, in order to provide a proper base for resilient-type floor coverings.

The cost of providing separate cement toppings over a structural-concrete floor slab may be as high as 20 or 25 cents per sq ft. In addition, for a 1″ topping, about 12 lb per sq ft of dead load are added to the structure, which might be reflected in larger beams, columns, and footings. Occasionally, no bond is developed between the cement topping and the structural slab, causing hollow sounds. Overtime for cement finishers can be reduced by grinding concrete surfaces with a terrazzo-grinding machine during regular working hours. Protection from weather can be avoided by scheduling the placing of concrete and by leaving it to the discretion of the contractor to use such protective measures as may be necessary to provide a sufficiently smooth floor.

Steel troweling of the concrete floor to provide a smooth surface to receive resilient-type flooring materials is debatable, while a smooth surface is achieved in this manner, a level surface is not necessarily obtained. Uneven pressure of the trowel produces slightly uneven surfaces. Although this unevenness is not noticeable to the eye, it becomes apparent when the resilient floor finish is applied and waxed. The highly reflective waxed surfaces at the rises and dips in the troweled floor cause the light to be reflected from the uneven surface, exaggerating the unevenness of the surface. It is true, however, that where a set-in type of sanitary-coved base is required, the cost of providing screeds for depressing the slab to accommodate the recessed base might be considerable, especially where the area is divided into a number of small rooms. Where a set-in type of coved base is used for a large, open area, the additional cost of screeds would be offset by the savings in the omission of the cement topping.

•

The following alternative methods for preparing the structural slab for reception of resilient floor coverings are offered and may be specified as follows:

"1. *Monolithic Finish:* Strike off and screed the structural-concrete slab to a true surface at the required elevation. After the surface water has disappeared, the concrete shall be thoroughly compacted with floats or tampers to force the coarse aggregate below the surface.

"2. *Dust-Coat Method:* The structural slab shall be struck off reasonably true to the required floor level and excess water or laitance removed. A mixture of dry materials consisting of one part of portland cement and two parts of coarse clean sand shall be dusted on the unhardened concrete in a uniform layer not over ⅛″ thick. When the dry materials have absorbed moisture from the slab and the concrete has hardened sufficiently to allow finishing, it shall be floated to unite the dust coat with the base slab to produce an even surface.

"3. *Float Finish:* The structural slab shall be struck off to true planes, at required elevations, and then screeded and floated to a smooth surface.

"4. *Grinding:* Wood-float the structural slab to the required elevations. Grind the concrete surface with terrazzo-grinding machines, prior to the application of resilient flooring."

Grinding of the wood-floated structural-concrete floor with terrazzo-grinding machines has several advantages. First, there is no necessity for finishing the slab by troweling, on the day it is placed, and thus the need for paying overtime to cement finishers is eliminated. Second, protection of the floor from other trades is not necessary and cleaning prior to application of resilient floor coverings is not required, since the grinding operation will prepare the floor and clean it at the same time.

It is suggested that all of the foregoing alternative methods be specified giving the contractor the option of preparing the structural concrete slab to receive the resilient-type flooring by any of these methods he elects.

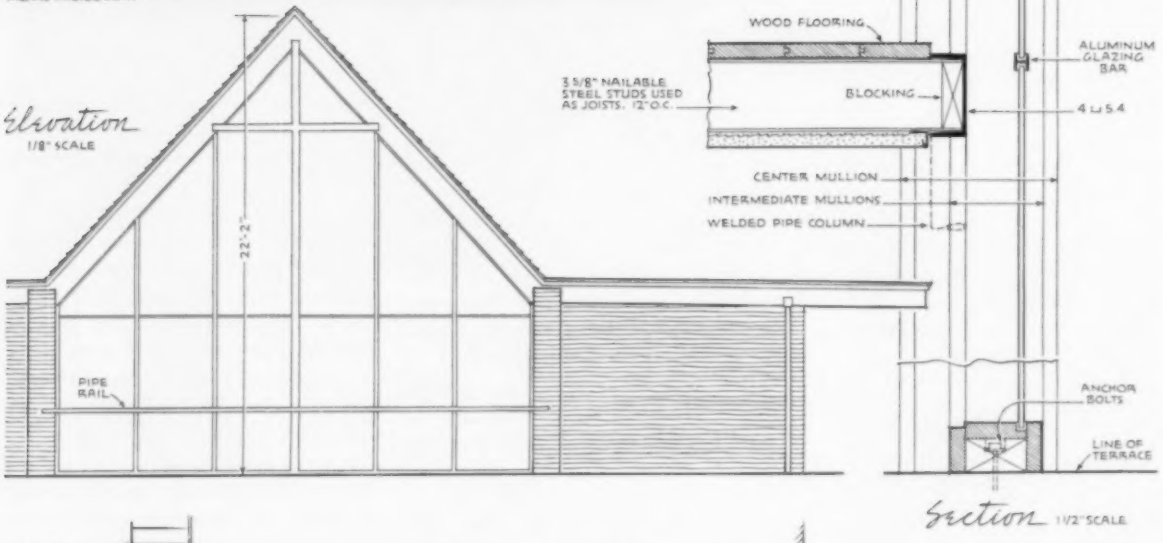
•

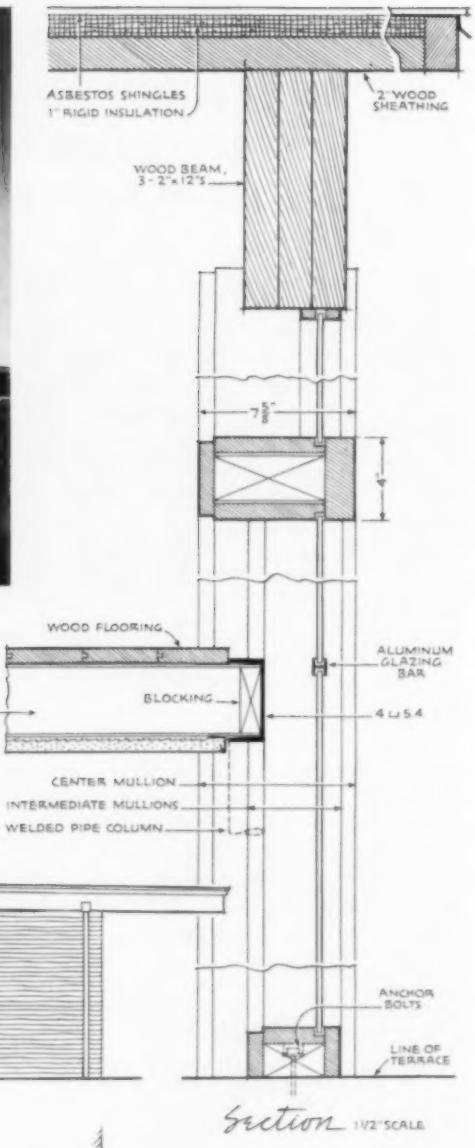
While we are on the subject of concrete floors and resilient floor coverings, one more word of caution might be stressed. Membrane-type curing compounds are being specified for curing of concrete floors. Some of these curing compounds have a deleterious effect on adhesives used for laying resilient floor coverings. *Ask the manufacturer* of the floor covering material whether the adhesive he recommends will be affected by the membrane type of concrete-curing compound you propose to use.

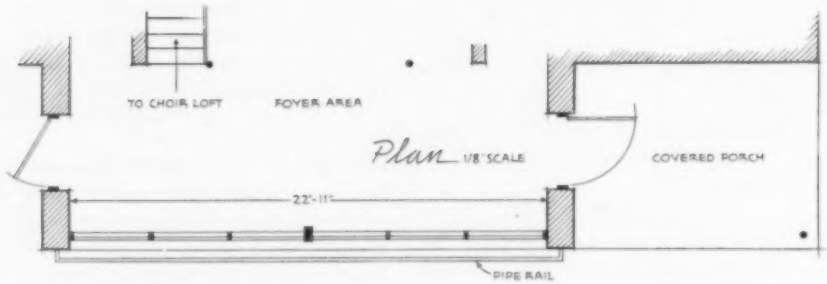
p/a selected detail

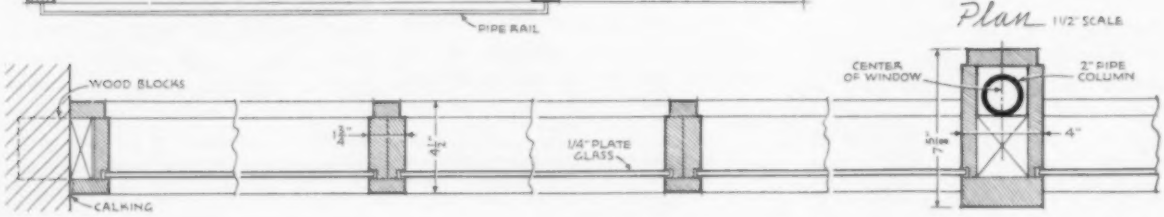
gabled window

MEARS PHOTOGRAPHY





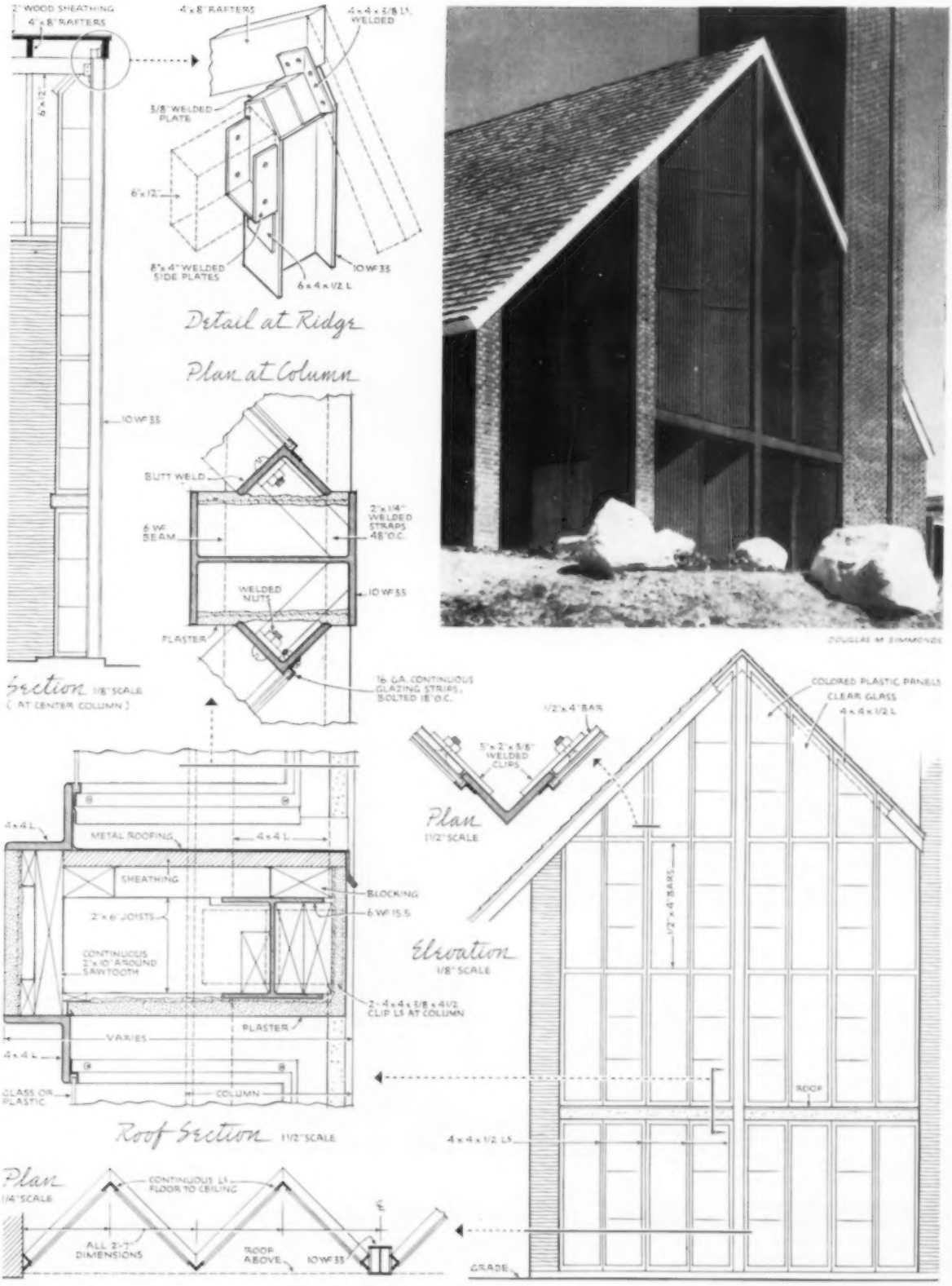




CHURCH, San Antonio, Tex.
Milton A. Ryan, Architect

gabled window

DOUGLAS M. SIMMONDS



CHURCH, San Pedro, Calif.
Carleton Monroe Winslow, Architect

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Louise Sloane

room settings

The architect, despite his special knowledge of materials, construction, and layout, is not too often called upon to design interiors whose sole purpose is to sell. Yet the fast-growing use of exhibition rooms for displaying merchandise, ideas, a service, or works of art, could legitimately open to the architect an additional field of practice.

Designing the room setting for exhibition demands, *per se*, a skilful blending of varied tehniques—some stagecraft, some sensitivity to human engineering, some feeling for display. No one will live in these rooms; yet if they do not invite living in, they fail of their purpose. If they are too fanciful or too theatrical, their appeal is removed from reality. If they are too pedestrian or too familiar, their appeal is nil.

We have chosen ten examples of room settings—all designed for public exhibit during the past six months—each with a sales reason for being. All have in common the solution of a single problem: to create, with minimum expense, an interior dramatic enough to catch the public eye and arouse interest in the key subject, at the same time believable enough for personal identification on the part of the consumer. Four of the rooms were shown in retail stores, two at a decorators' conference, two in a manufacturers' display of textiles, one at a builders' show, one at a joint artists'-decorators' show. In their respective uses of background, color, and furnishings, each achieves its special purpose.

Setting by the Oakland Municipal Art Museum at the American Institute of Decorators' San Francisco conference, offering a preview of the Museum's "California Designed" exhibition. Contemporary furniture is used in an Oriental atmosphere, accented by screen, Bonsai tree, and shimmering foil room divider.

room settings

client: Frank Newman's
location: San Francisco, California
designer: Paul Palmer

Three settings (this page *and* top across-page) *were designed for a furniture store's co-ordinated public showing combining interiors, women's fashions, and automobiles in "The Continental Look." Palmer's interiors soundly promote merchandise sold by the store through settings that are imaginatively dramatic, yet conceivably livable. Furniture in "Sweden" is designed by Folke Ohlsson for Dux. In "Italy," white lacquered chest with rare wood panels is custom-made in store's own shops; chair is by Singer; tripod table by Fornasetti. Contemporary Italian sculpture and paintings contribute importantly to the atmosphere. "Japan" combines antique furniture with black-lacquer-and-walnut contemporary pieces designed by Paul Palmer for Dependable Furniture Manufacturing Co. Tatami matting on the floor, shoji screens, and Japanese accessories from Dean Trimble Imports, add authentic color.*

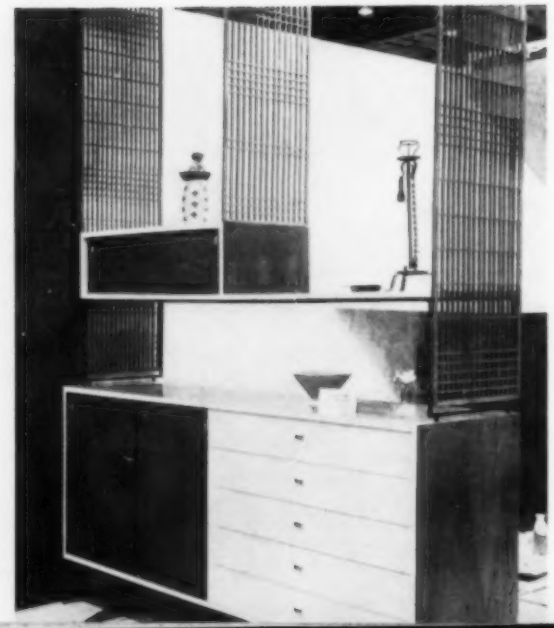
client: Bloomingdale's
location: New York, New York
designer: Henriette Granville

Bold and original use of color, thoughtful accessorizing, furniture arrangement clearly related to living habits, combine to lift Miss Granville's display interiors far above the ordinary department store "model room" design. In this setting, the colors are a strong, sharp green and a vibrant, deep blue, used in upholstery and drapery fabrics against white walls, ceiling and brass-striped white vinyl floor. Caned chairs, by George Tanier, contrast texturally with fine-checked Boris Kroll fabric on the sofas, geometric drapery print, and Formica-and-walnut tables and cases.

room settings

client: Japan Trade Center
location: New York, New York
designer: René d'Auriac

Four floors of display at the International Home Building Exhibition in the giant New York Coliseum produced but a handful of successful interiors, of which this is one. In "Inspiration House," d'Auriac has designed an apt setting demonstrating the adaptability of Japanese decor to Western use, thereby stimulating public interest in Japanese products available in the American market. The bamboo back chairs, silk fabrics, rug, grasscloth wallpaper, lanterns, tatami mats, and pottery are all Japanese imports. The Noguchi-designed toppling stools are from Knoll, the coffee-table a Nakashima design. Separating the living area from the traditional Japanese cooking-dining area is a d'Auriac-designed room divider, made by Interior Elements. Detail shows its graceful, functional elements.



client: "Decorators' Big Show"
location: San Francisco, California
designer: Jens Risom

In creating this room setting, Risom had both a professional and a consumer audience to reach, for it was one of some 200 displays presented in conjunction with the 25th Anniversary Conference of the AID, the first exhibit of its kind opened to the general public. Risom's study, that doubles as a guest-bedroom, effectively shows off furniture of his own design and manufacture in a setting that does not hesitate to use such architectural adjuncts as offset paneled walnut sections, a raised fireplace. A color scheme of white, orange, and gold warms the walnut of the furniture. Textures are introduced in the Moroccan Cabincrafts rug, the linen-and-cotton sheer casement curtains by Boris Kroll. With five pieces of furniture (convertible sofabed, pair of chairs, revolving coffee table, single-based storage and television cabinets) Risom has deftly established an interior of believable character and interest.

room settings

client: Celanese Corporation of America
location: New York, New York
designers: John and Earline Brice

For a month-long exhibit, open to the public, occupying more than 11,000 square feet, and displaying one of the largest collections of decorative fabrics ever to be assembled, the Brices designed both full room settings and vignettes. Knoll Textiles' "Triad" print in a geometric pattern of red and white against black on a Fortisan and spun rayon ground (left), is used as the major decorative statement in a room. Simple frame margins, painted glossy black, are applied around the window areas. Knoll furniture completes the clean-lined setting.

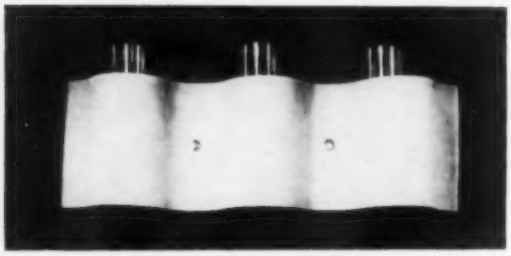
The client's product is skilfully displayed (below and acrosspage top). *Through the use of the same sheer printed Fortisan fabric, "Tree Shadow," in both draped and stretched treatments, strength and stability of the fabric are pointed up. The soft amber tone of the Alexander Smith rug holds together the burnt orange of the sofa, and the silver, brass, and blue of the chairs, all upholstered in Fortisan and rayon "Desmond," a fabric specially treated for upholstery use. Fabrics are by Cheney Greeff; furniture by Harvey Probber; table top and lamps by Inlay Arts.*

client: Silvermine Guild of Artists
location: New Canaan, Connecticut
designer: Richard Wookey

This room setting (right) *is one of a group of twelve, each designed by a member of the Interior Designers Associates of the Silvermine Guild of Artists, for a month-long public exhibit in the Guild's galleries. Called "Make Room for the Arts," the show was designed to focus public attention on the integration of fine arts with interiors. In Wookey's setting, the midnight blue and black values of Petardi's painting are repeated in ceiling, walls, and floor. Black vinyl tile, blue-bordered, covers the floor and extends up to cover one wall. Another wall is covered in the same plaid linen as the bench upholstery. Dunbar chairs; antique table, chess set, candelabra; built-in shelves for books and* objets d'art *create character for the room. Plaid fabric is by Cheney Greeff; vinyl floor and walls by William Gold.*

p/a interior design products

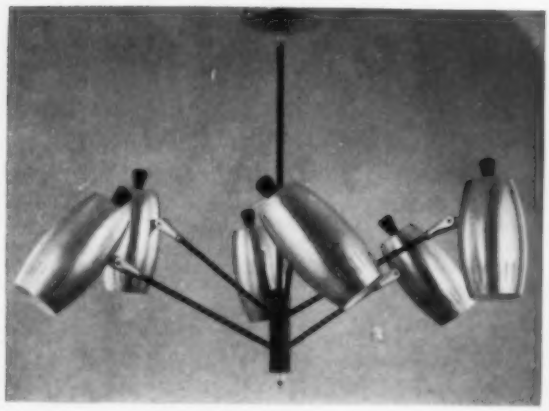
Reversible: bathroom fixture (below)/ curved strip of ribbed glass/ conceals three light bulbs/ polished-brass sockets/ socket covers may face up to throw light on wall, or down to throw light downward/ designed by Maurizio Tempestini/ **retail:** $19/ **Lightolier, Inc., 346 Claremont Ave., Jersey City, N. J.**

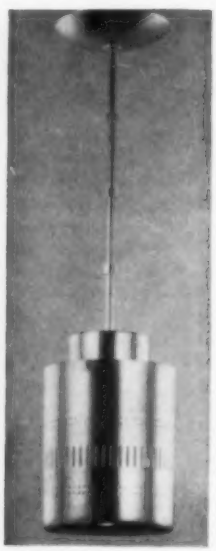


Pendant: one of 26 fixtures (above) in new "Royal Line" collection/ white, etched, diffusing glass and polished brass/ also available with reel/ designed by Leon Gordon Miller/ **Timely Lighting Products Co., 4501 Perkins Ave., Cleveland, Ohio.**

Dropped Light: chain-hung cylindrical combination (above)/ opal glass and brass/ 22½" long, 10" diameter/ **retail:** $87/ **Finland House Lighting Corp., 41 E. 50 St., New York, N. Y.**

"Continental": two units (below) from a broad new collection of fixtures for residential and commercial use/ #G6037, 6-light fixture/ luster-brass with mat, ebony trim/ each light separately adjustable in desired positions/ 40" diameter, 15" body depth, 34" over-all depth with 22" stem; #G6083, suspended accent light/ "Flex-Stem" suspension device that conceals wires and chains is entirely adjustable and available in multiples of four-inch sections/ polished brass, combined with mat white/ 6½" diameter, 9¾" body depth, 32" over-all depth/ **Globe Lighting Products, Inc., 16 E. 40 St., New York, N. Y.**





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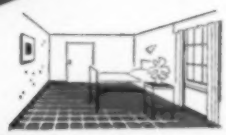

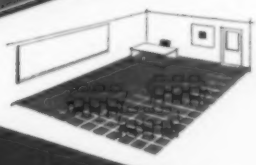

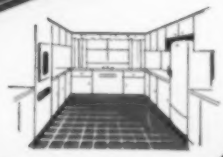

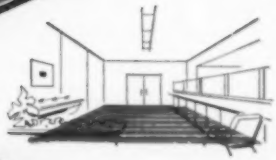

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Bolta-Floor is produced in a full range of 22 fashionable decorator colors . . . 5 solid and 17 marbleized. It's available in 4 tile sizes (6 x 6, 9 x 9, 12 x 12, 18 x 18), 2 roll widths (27″ and 54″) and in 3 gauges (⅛″, 3/32″ and .080 gauge).

To be sure of finest quality vinyl flooring with assured top performance, specify Bolta-Floor —another superior product of The General Tire & Rubber Co.

FOR HOSPITALS
SCHOOLS • OFFICES
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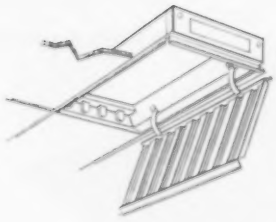
The General Tire & Rubber Co.
Flooring Division · Akron, Ohio

This precision-engineered modern module is Lightolier's newest solution to the problem of efficient, evenly diffused lighting for public and commercial interiors. It is designed for swift installation in the modular pattern of almost all suspended 2′ x 4′ acoustical and plaster ceilings. The clean-lined structural vinyl diffuser spreads optimum glare-free illumination over a broad area. It swings down on hidden hinges for speedy, economical cleaning and relamping. Available in 2′ x 2′ and 2′ x 4′ sizes for individual, continuous or pattern mounting. For more detailed information, write Dept. P.A.-106.



THE ARCHITECTURAL LIGHTING DIVISION OF

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ARCHITECTURAL LIGHTING • PORTABLE LAMPS • RESIDENTIAL FIXTURES

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an exciting new effect in ceilings

OWENS-CORNING

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ACOUSTICAL TILE

Eyes—*UP* . . . to a unique new kind of ceiling tile—whose completely random, soft-stippled surface casts a graded shadow that helps conceal tile lines. Beautiful new Fiberglas* FRESCO* Acoustical Tile—with "Class A-Incombustible" Underwriters' Rating—is a *fire-safe*, acoustically efficient solution to many ceiling problems. Fresco Tile is easily vacuum-cleaned . . . may be spray-painted several times without diminishing acoustical benefits (N.R.C. = .85 on No. 7 mounting). Fresco Tile is now available in two standard sizes—12" x 12", 12" x 24"—for all application methods. Write now for complete data on new Fiberglas FRESCO Tile—brochure AC6.C14. Owens-Corning Fiberglas Corporation, Dept. 63-J, Toledo 1, Ohio.

It's amazing the difference Fiberglas makes!

NOISE CONTROL PRODUCTS

ACOUSTICAL TILE—Fresco, Textured, Perforated, Sonofaced*, Stria* • CEILING BOARD — Textured, Sonofaced, Stria • Noise-Stop* BAFFLES.
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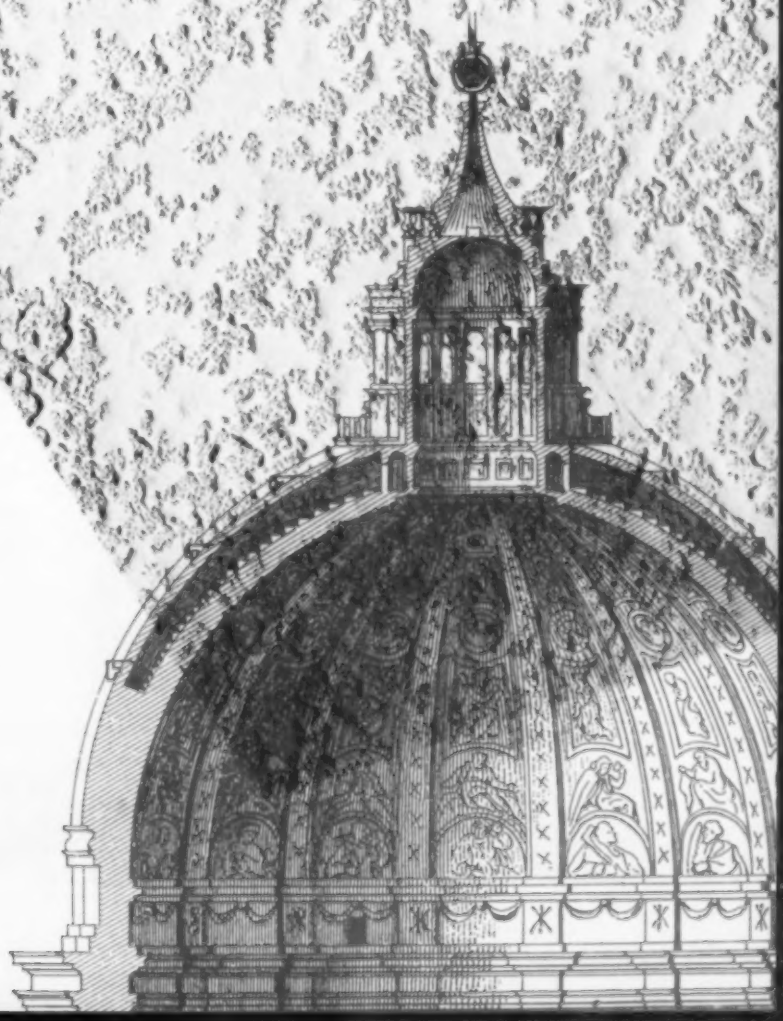
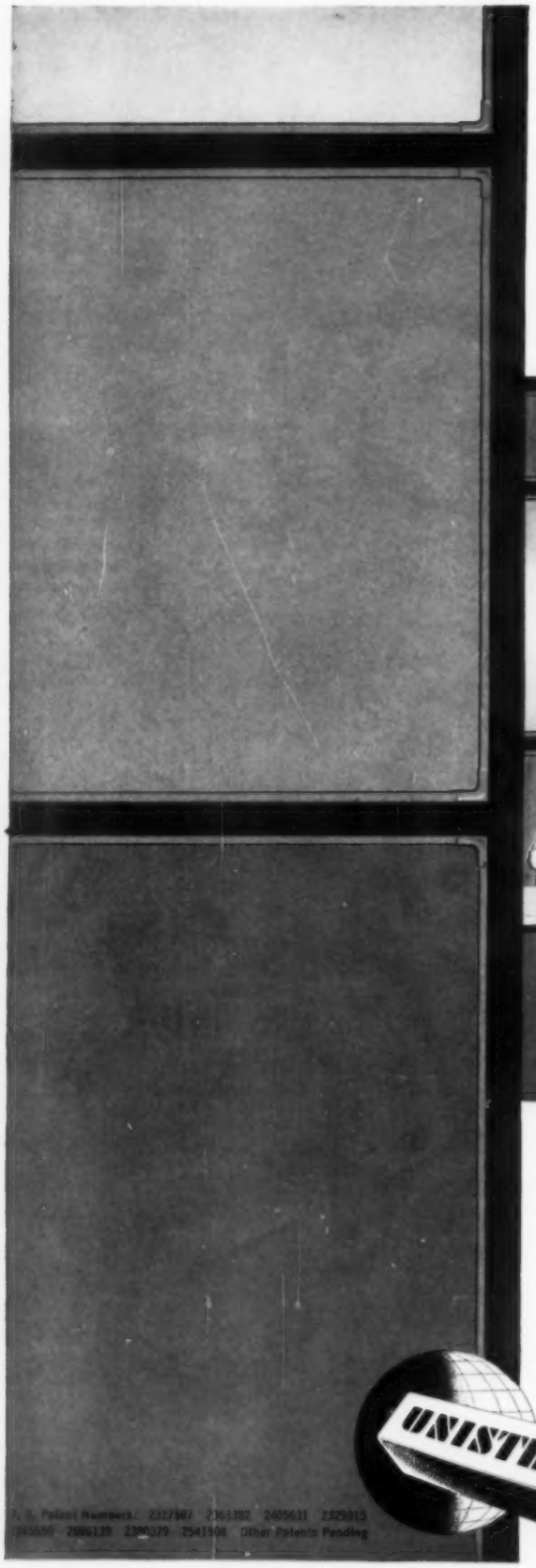


Low-cost partitions you can erect... UNISTRUT®



What kind of partitions do you want? Plywood, hardboard, plasterboard, glass, metal? Do you want a simple railing, a 7-foot-high partition, a 10-foot-high partition, one that goes clear to the ceiling or any combination of these?

No matter! With the flexible UNISTRUT Partitioning System you can have just the kind of partition you want... out of just the material you want... to fit exactly the space you have available... and, above all, at extremely low cost. Yes, and UNISTRUT Partitions are easy to erect. The framework is of UNISTRUT Channel... amazingly strong yet amazingly simple. Paneling may be chosen from any basic material.

All material is easily movable and fully re-usable—giving you maximum economy, maximum flexibility!

Write Dept.P-10 for Catalog No. 900 giving complete information.

UNISTRUT PRODUCTS COMPANY
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The trend in gymstands is WAYNE

Today's modern school planners recognize the value of consulting Wayne early . . . at the planning stages of new gymnasium building. They like the sound counsel and professional seating guidance that helps them plan and build more effective, efficient gymnasiums of tomorrow.

They also like the smooth, smart, modern appearance of Wayne seating that blends so beautifully into today's functional gymnasiums. They're sold on Wayne's famous engineering advances . . . closed riser construction . . . the exclusive alignment—frame assembly that permits smooth, easy, straight-line opening and closing. And, they take deep pride in the richness of the carefully selected and beautifully finished Wayne woodwork.

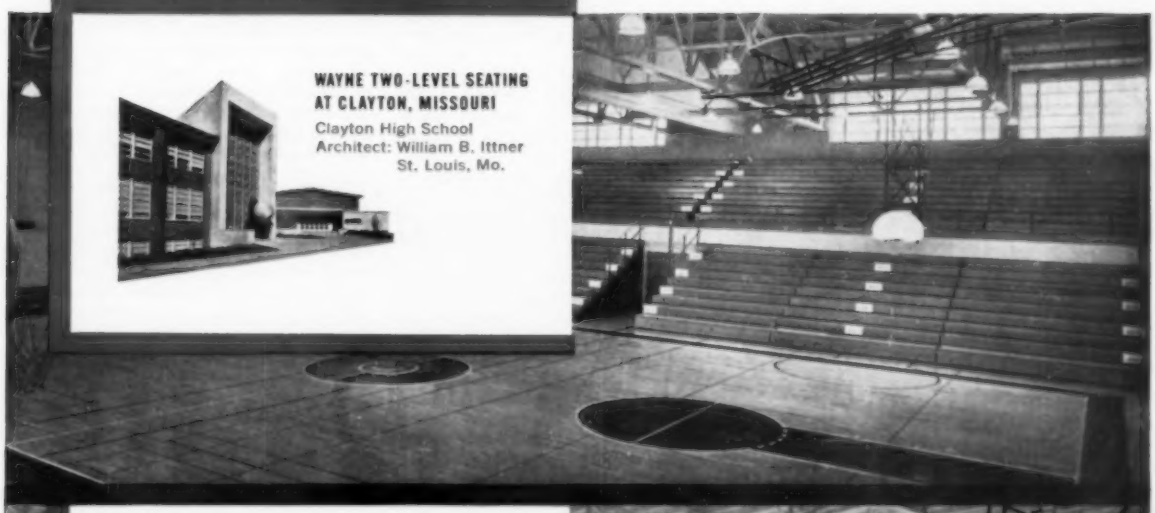
The trend in the nation's fine schools is definitely Wayne!

HERE'S HELP FOR GYMNASIUM PLANNERS

If you're planning a new Gym, request Wayne's Catalog R-55, it's full of helpful data on gymnasium seating. WRITE DIRECT to Wayne Iron Works, 149 N. Pembroke Avenue, Wayne, Pa.

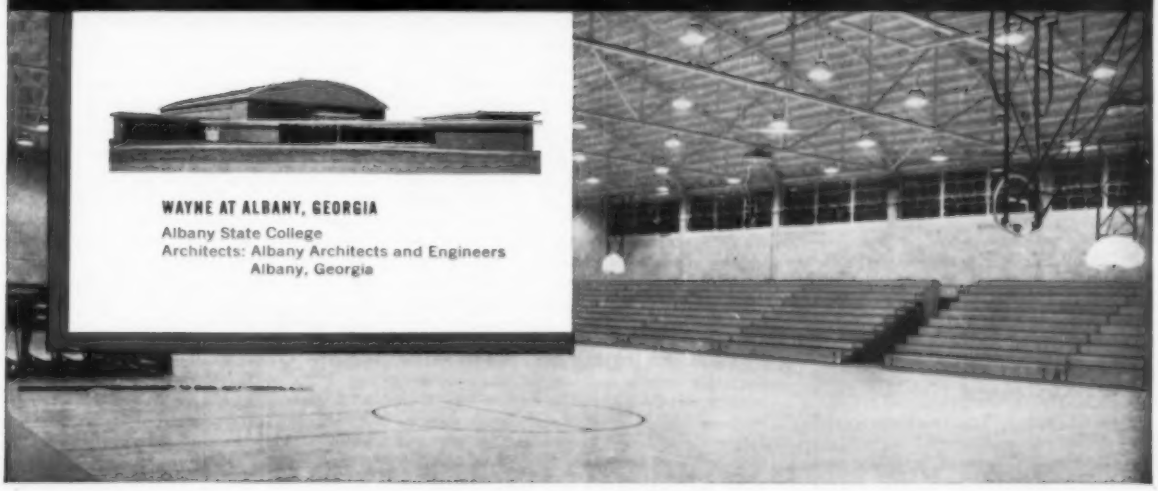
WAYNE TWO-LEVEL SEATING AT CLAYTON, MISSOURI

Clayton High School
Architect: William B. Ittner
St. Louis, Mo.



WAYNE AT ALBANY, GEORGIA

Albany State College
Architects: Albany Architects and Engineers
Albany, Georgia



p/a manufacturers' literature

Editor's Note: Items starred are particularly ★ *noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

163. Auto-Airmat Air Filter (234-C), 8-p. bulletin on automatic dry-type air filter. Explains industrial application where lint, dust, and ink mist are prevalent. Describes disposal action, installation, and operating characteristics; outlines separate components. Chart of dimensions and capacities; graph of media resistance to air velocities; dimensioned drawings of unit. American Air Filter Co., Inc., Louisville 8, Ky.

164. Weather Controls (C-256), 4-p. file folder providing detail information on three basic types of automatic heat controls regulated by outdoor weather. Each is illustrated and explained in terms of particular function and recommended location. Describes alternate models, accessories and special attachments; diagrams show application to furnace or boiler. Automatic Devices Co., Inc., Western Springs, Ill.

165. Furnace and Boiler Controls (500-A), 30-p. catalog on domestic-heating system controls. Thermostats and solenoids, gas, and oil heating controls are covered in three separate sections; photos accompany description of each model. Special information on float valves with dimensioned diagrams; service data; tables of flow and electrical ratings. Detroit Controls Corp., 5900 Trumbull Ave., Detroit 8, Mich.

166. Incremental Air Conditioning, AIA 30-F-1-2, 28-p. booklet introducing year-round air-conditioning system for multi-room buildings. Presents general information; outlines advantages over units in common use in terms of economic considerations as well as effects on occupant, owner, and operator. Convector types are pictured and accompanied with discussion of function, installation, and specifications. Photos, drawings. Remington Air-Conditioning, Auburn, N. Y.

167. Cyclo-Trell Dust Collector (100), 12-p. pamphlet using full page illustrations to explain principles of centrifugal multiple-tube dust collector. Briefly describes function of specially designed vanes. Construction is indicated by cutaway views of assembly. Supplies collection efficiency and capacity nomigraphs; tables of design data for different size units. Research-Cottrell, Inc., Bound Brook, N. J.

168. Kno-Draft "Architects' Group" Diffusers (K-27), 12-p. catalog featuring line of square and slotted air diffusers. Illustrates three types of square diffusers designed to give precise circular diffusion patterns over large area; shows two rectangular slotted diffusers—for one-directional or multidirectional flow—developed to give good diffusion characteristics. Presents instructions for selecting proper unit, including dimensioned drawings and performance charts for each model. Photos of typical installations; charts. Connor Engineering Corp., Danbury, Conn.

construction

233. Architectural Woodwork: School Cabinets, AIA 19-E (9), 14-p. brochure of architectural drawings showing construction and installation of custom-built under-the-window school cabinets. Lists advantages and offers suggestions for design. Architectural Woodwork Institute, 332 S. Michigan Ave., Chicago 4, Ill.

234. Corruform Steel Base, AIA 13-G (BFg-566), 12-p. product manual providing data on deep-corrugated steel sheet decking for concrete slabs. Outlines advantages of use over steel or concrete joists and pipe tunnels. Provides detail drawings; photos of several installations; specifications and loading tables for selection. Shows standard fasteners and application. Granco Steel Products Co., 6506 N. Broadway—P.O. Box 2 Baden Station, St. Louis 15, Mo.

235. Van-Packer Chimney, AIA 5-H (RS 1) 8-p. publication on complete packaged masonry chimney with simulated brick cement asbestos housing and cap. Outlines advantages and safety test data; photos demonstrate one-man installation; sections give measuring instructions for floor, ceiling, and pier suspended chimney; details indicate interior installations. Drawings; specifications. Van-Packer Corp., Bettendorf, Iowa.

236. Contact Metal Lath Ceilings, AIA 20-B-1 (17), 4-p. technical bulletin on ceilings using metal lath without furring under joists or slab. Describes advantages; provides specifications for installation; fire resistance ratings; details for steel, concrete, and wood construction. Tables; drawings. Metal Lath Mfg. Assoc., Engineers Building, Cleveland 14, Ohio.

237. Wayne Automatic Folding Partitions, 4-p. bulletin providing details and data on automatic electric folding partitions, custom-designed to divide gymnasium, auditorium, and exhibition space into soundproof classroom areas. Includes photos of actual installations. Shows three basic construction types; typical plans; cross sections. Wayne Iron Works, Wayne, Pa.

Plywood Design, AIA 19-F, 30-p. looseleaf portfolio presenting designs to stress versatility of fir plywood. Four-color illustrations with comments and details demonstrate possibilities—economical structural wall and roof system is formed by random sized plywood panels and glass locked between rabbeted posts; kitchen layout is comprised of built-in units framed by glass. Other renderings show garden enclosures, interior furnishings, and purely decorative elements. Emphasis on oriental simplicity and geometric forms. Free to architects requesting on firm letterheads. Douglas Fir Plywood Assoc., Tacoma 2, Wash.

238. Maulwal Curtain Walls, 4-p. circular showing curtain wall details under three different conditions: panel-to-panel; panel and mullion; horizontal spandrels. Advantages of tongue-and-groove system and nonconducting gasket for mullion connection are outlined alongside. Maul Macotta Corp., 1640 E. Hancock, Detroit 7, Mich.

★ **Acrylite Plastic,** 36-p. booklet specifically designed to introduce versatility of acrylite shatterproof plastic sheets in decorating and design. Drawings accompanied by details suggest applications such as space divider which utilizes lightweight, translucent properties; ceiling panels; window screens. Actual samples of material are enclosed to show variety of possible patterns embedded into plastic. Available only to architects requesting on letterheads. Wasco Products, Inc., Bay State Road, Cambridge 38, Mass. $1.

239. Stainless-Steel Roof-Drainage Guide, AIA 12-I, 4-p. file folder for design of roof-drainage systems. Provides directions for computing gutter and leader sizes; gives dimensions and drawings of standard gutters, leaders and fittings. Also outlines advantages of stainless steel for drains; suggests methods for installing stainless-steel drainage parts. Armco Steel Corp., Middletown, Ohio.

doors and windows

376. Soss Hinges and Latches, 4-p. circular showing invisible door hinges and lever-type latches. Gives data on hinges varying in size from cabinet-door hinges to those for heavy exterior doors; provides information on lever latches which eliminate projecting door knobs. Details, dimensions, and specifications for hinges. Soss Mfg. Co., 21777 Hoover Rd., Detroit, Mich.

377. Aluminum Windows, 16-p. booklet providing instructions for the care and cleaning of aluminum windows. Describes protection of finishes during storage, handling, and installation; suggests procedure for cleaning; outlines methods of restoring discolored surfaces. Provides list of products useful in maintenance. Aluminum Window Manuf. Assoc., 75 West St., New York 6, N. Y.

378. Sun - Sash Louvered Windows, 3c/SU, 4-p. data sheet showing removable glass louvers rotated between steel uprights for use as windows, partitions, or vents. Lists special features covering ease

of installation, operation, and maintenance. Photos show several applications; drawings explain installation of fittings into window frame. Construction details; table of standard sizes; specifications. Sun-Sash Co., 38 Park Row, New York 38, N. Y.

379. Fleetlite Aluminum Window, AIA 16-E, 8-p. folder illustrating aluminum double-hung window with detachable screen and sash. Cutaway section indicates construction and special features including pile mohair weatherstripping backed by sponge rubber to facilitate removal of sash. Shows stock types and sizes; installation details; full size window details; specifications. Fleet of America, Inc., 110 Pearl St., Buffalo 2, N. Y.

electrical equipment, lighting

456. Sightron Fixtures, AIA 31-F-23 (16), 16-p. booklet presenting line of lighting fixtures with finely ribbed polystyrene diffusers. Reviews features of pure-white, glare-filtering diffuser; describes construction of fixtures. Gives drawings, dimensions, and performance data for recessed and flush-mounted fixtures. Lightolier, 11 E. 36 St., New York, N. Y.

457. System - Engineered Equipment, GED-3038, 40-p. booklet featuring electrical equipment for commercial power distribution. Discusses planning of electrical distribution systems using cutaways, photos, and graphs for clarity. Presents standard control units and accessories in five separate sections; provides guide for selecting wires and cables; shows typical installations of most equipment. General Electric Co., Schenectady 5, N. Y.

458. School Lighting, F-615A, 16-p. pamphlet promoting the use of modern lighting methods in classrooms and other school areas. Summarizes results of case studies to determine how lighting affects reading ability and morale of students. Recommends desirable illuminating levels and reflection factors. Illustrations show various types of lighting systems; modern installations. Sylvania Electric Products, Inc., Lighting Fixtures, Wheeling, W. Va.

459. Gymnasium Lighting, 20M, 12-p. guide for lighting gymnasiums with sufficient, well-distributed illumination and minimum glare. Data explains three-level illumination; proper use and coordination of fluorescent and incandescent lighting; outlines procedure for solving sample problems with suggested layouts. Provides charts for selection of lighting units; illustrations of basic lighting assemblies. Data based on sound engineering principles, can be applied to any large indoor structure with similar requirements. Pittsburgh Reflector Co., Oliver Bldg., Pittsburgh 22, Pa.

460. RCA Sound Systems, 8-p. pamphlet briefly describing broadcast equipment and sound systems for use in churches or temples where large attendence, construction, and visual appearance create specialized acoustical problems. Photos show speakers and baffles recessed into masonry; microphones installed in pulpit, lectern, and altars; organ microphone suspended from ceiling. RCA Sound Equipment, Camden, N. J.

finishes and protectors

513. Luminall Paint, AIA 25-B-21, 4-p. specification sheet directed to nontechnical reader provides instructions for application of casein-emulsion paint to acoustical surfaces without impairing sound absorbing, fire retardent properties. Includes directions for mixing and tinting; general information on acoustical materials; special features of product; test data. National Chemical & Mfg. Co., 3617 South May St., Chicago 9, Ill.

insulation (thermal, accoustical)

624. Mineral Wool Insulation, 16-p. booklet outlining advantages of mineral wool insulation for electrically heated homes. Recommends insulation standards. Illustrations show installation of batts, blankets, and vapor barriers under various conditions. Indicates minimum vent openings for attic and basement; provides guide for use of blown mineral wool; discusses perimeter insulation of on-grade concrete slabs. National Mineral Wool Assoc., 2906 Americas Bldg., Rockefeller Center, New York 20, N. Y.

625. Kilnoise Acoustical Tiles, AIA 39-B, 4-p. data sheet presenting 12" sq. mineral acoustical tiles with capillary structure free from fissures and holes. Describes installation via mechanical suspension and adhesive application. Photos show installations in public buildings. Illustrates color and striated tile developed for decorating variety. Technical data; specifications. New England Lime Co., Adams, Mass.

626. Tectum Acoustical Panels, AIA 39-B, 4-p. folder providing data on removable wood fiber acoustical ceiling panels with noncombustible asphalt-impregnated felt binder. Describes basic properties and special features of standard 24" x 48" panels. Installation with metal-T suspension system is illustrated and explained. Photos; specifications. Tectum Div., Peoples Research & Manuf. Co., 105 S. Sixth St., Newark, Ohio.

sanitation, plumbing, water supply

718. Moen Faucets, AIA 29-H-5, 4-p. bulletin featuring single-handle mixing faucets. Explains operation of faucet controlled by single stainless-steel piston. Shows deck-type and wall-type units for kitchens; illustrates mixing valves for showers and tubs; covers faucets for laboratories and commercial uses. Drawings; description of each model. Moen Valve Co., 6518 Ravenna Ave., Seattle 15, Wash.

719. Josam Shock Absorbers, AIA 29-D-8, 12-p. manual introducing metal encased tube and insert of synthetic rubber compound devised to absorb shock of sudden water pipe pressure responsible for water hammer. Compares unit to less effective ones in common use. Provides sizing table with sample problems; typical piping layouts; general information. Sketches suggest locations for installation. Josam Mfg. Co., Michigan City, Ind.

720. Flexon Expansion Joints, 28-p. guide for designing expansion joints used in pipelines. Describes low, high pressure types; dual joints; special units and accessories. Explains joint construction; basic pipeline movements. Offers formulae for anchor load calculations; guide for pipe spacing; large schematic piping layout showing expansion joint application and principles. Assorted other data for simplifying selection; installation instructions. Photos; tables. Flexonics Corp., Maywood, Ill.

721. Bradley Washroom Equipment, 5601, 28-p. catalog presenting line of group washing and drinking fountains, showers, and accessories for institutions. Features 54" circular washfountain designed to serve eight at once. Points out construction advantages; provides drawings, specifications for foot- and hand-controlled models. Shows bowls of precast stone and marble; stainless steel; vitreous enamel. Color plates illustrate available color compositions. Suggests washroom

(Continued on page 172)

PROGRESSIVE ARCHITECTURE, 430 Park Avenue, New York 22, N. Y. I should like a copy of each piece of Manufacturers' Literature circled. We request students to send their inquiries directly to the manufacturers.

163	237	459	722	941
164	238	460	932	942
165	239	513	933	55
166	376	624	934	56
167	377	625	935	57
168	378	626	936	58
233	379	718	937	
234	456	719	938	
235	457	720	939	
236	458	721	940	

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p/a manufacturers' literature

(Continued from page 171)

layouts and unit capacities. Bradley Washfountain Co., 2203 W. Michigan St., Milwaukee 1, Wisc.

722. Modern Swimming Pools, AIA 35-F-2, 52-p. catalog and data book dealing with swimming pool supplies necessary for construction and maintenance. Covers large variety of accessories. Includes sections on chemicals for cleaning or conditioning water and controlling algae. Provides chart for proper selection of filters and introduces buried type for use in limited space; diagrammic drawings of filters and fittings; special section on maintenance procedures. All items illustrated and described. Modern Swimming Pool Co., Inc., One Holland Ave., White Plains, N. Y.

surfacing materials

932. Masonite Presdwood Products, AIA 23-L (5514), 20-p. architect's guide to woodchip hardboards. Describes hardboards for interior and exterior uses; gives instructions for working and conditioning material. Drawings; suggested details; specifications. Masonite Corp., 111 W. Washington St., Chicago 2, Ill.

933. Panelyte, AIA 35-C-12 (156), 8-p. brochure on decorative laminated-plastic surfacing material. Gives technical data on standard 1/16″ material; also covers special 1/20″ laminate which can be postformed and curved. Color photos of patterns; installation details. Panelyte Div., St. Regis Paper Co., 230 Park Ave., New York 17, N. Y.

934. Conduct-O-Tile Floors and Walls, AIA-23a, 4-p. brochure describing permanently conductive ceramic tile for hospitals where static electricity is hazardous unless rapidly dissipated. Lists other features such as resistance to disinfectants, fire retardence, and vitreous surface requiring no waxing. Illustrates several possible design patterns using colored-random and square-cut tiles. American-Olean Tile Co., Olean, N. Y.

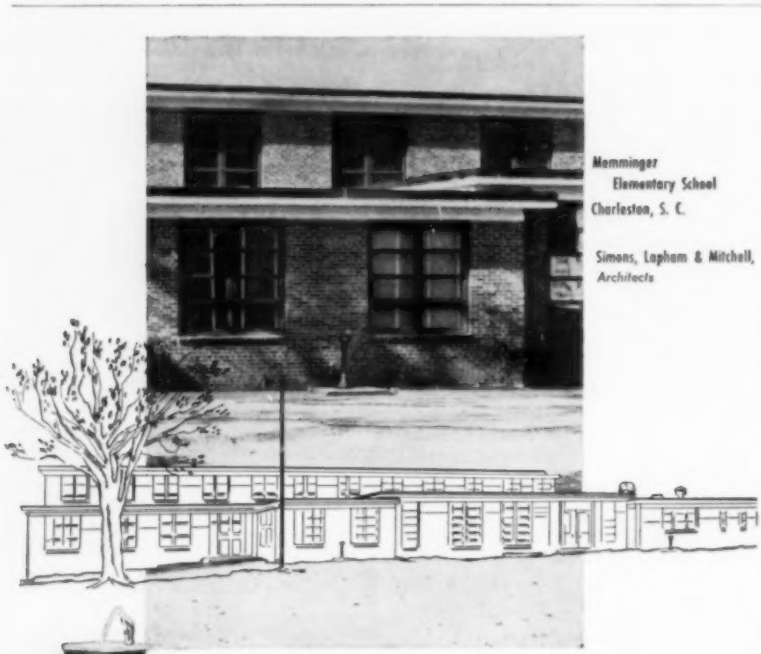
935. Laykold Tennis Courts, 12-p. publication discussing two types of all-weather, grit-free, resilient tennis court surfaces screeded with cold asphaltic mixes. Color photos show actual installations using black, red, or green surface. Other photos illustrate typical court construction. Cutaway drawings indicate ingredients used for new tennis courts, continued maintenance, and reconstruction. American Bitumuls & Asphalt Co., 200 Bush St., San Francisco 20, Cal.

936. Armstrong Resilient Floors, AIA 23-G, 46-p. technical manual prepared to aid architects in choice of proper resilient flooring for basic moisture and special conditions. Discusses use over concrete and radiant heating; maintenance and inspection after installation. Recommends adhesives for various installations. Provides specifications; chart summarizing physical characteristics and comparative costs of resilient materials. Armstrong Cork Co., Lancaster, Pa.

937. Chalkboards, 8-p. brochure containing information on steel and plastic chalkboards for schools. Illustrates mounting in movable as well as fixed aluminum frames. Provides chart describing various types with dimensions, weight, and choice of colors. Gives full size details for recessed and surface boards; aluminum frame features; specifications. N. Y. Standard Blackboard Co., Inc., 225 Broadway, New York 7, N. Y.

Mahogany Grain Patterns, 32-p. booklet illustrating 40 varieties of mahogany veneer in natural color reproductions. Gives detailed description and standard plate numbers useful for specification and selection. Data covers origin and development of various configurations; includes a glossary of pertinent terms. Special sections show effects obtained by matching pieces. Available only on direct order from Mahogany Assoc., Inc., 666 Lake Shore Drive, Chicago 11, Ill. $1.

(Continued on page 176)



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Charleston, S. C.

Simons, Lapham & Mitchell, Architects

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A-64

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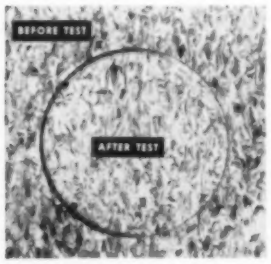
And new "Sequin" is as rugged and easy to maintain as it is beautiful! Colors are inlaid *clear through* to the backing. Its satin-smooth surface seals out dirt, resists stains . . . makes cleaning easy! Grease, grime and spills just wipe off with a damp cloth! And "Sequin" needs less buffing—for scuffs "disappear" in the design. See new Gold Seal ⅛" "Sequin" linoleum at your Gold Seal Dealer.

SPECIFICATIONS: 6-ft. wide yard goods. ⅛" gauge, burlap backed. Install over suspended wood or concrete subfloors. Available in: Grey mix, Grey, Green, Dark Brown, White Multi, Taupe, Beige. Also made in standard gauge for residential use—in 16 colors.

Abrasive Wheel Test proves "Sequin" will "look like new" through long service life!



The circular "After Test" area is the result of applying the abrasive wheel to the "Sequin" sample. See how it *has worn well through the linoleum*—and yet the pattern is still there, as clear and sharp as ever! Compare it with the "Before Test" area. *You can't tell the difference!* Write to Architects Service Department, Gold Seal Floors and Walls, Congoleum-Nairn Inc., Kearny, N. J., for further information.

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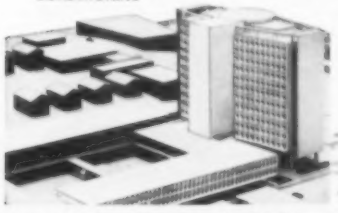
All built with Zonolite... and steel. The "flesh" and the "bones" of modern-day building. Steel's story is not our province. We provide the amazing Zonolite products which help to make these architectural triumphs possible: Zonolite plaster (fireproofing), Zonolite Acoustical Plastic (sound-conditioning or fireproofing), and Zonolite Concrete (for insulating "thin-wall" spandrel or panel backup). Zonolite superiorities derive from the basic mineral vermiculite. Zonolite fireproofs, sound conditions, saves tons of deadweight. Is hand or machine-applied at low cost, speeds construction. Wherever America builds, Zonolite is adding to its reputation as steel's inseparable companion in today's high-performance, lightweight skyscrapers (and single-story structures). We invite you to send for complete design data.

3325 Wilshire Blvd. Building, Los Angeles, Cal.
Arch.: Victor Gruen
Gen. Contr.: C. L. Peck
Pl. Contr.: Martin Bros.
ZONOLITE CONCRETE FOR SPANDREL WALLS; ZONOLITE PLASTER FIREPROOFING

Mt. Sinai Hospital and Clinic, Los Angeles, Cal.
Arch.: Welton Becket F.A.I.A., & Assoc.
Assoc. Arch.: Palmer, Krisel & Lindsay
Gen. Contr.: C. L. Peck
Pl. Contr.: F. F. Kunz
ZONOLITE ACOUSTICAL PLASTIC AND PLASTER FIREPROOFING

City National Bank, Beverly Hills, Cal.
Arch.: Welton Becket F.A.I.A., & Assoc.
Gen. Contr.: C. L. Peck
Pl. Contr.: Carroll Duncan
ZONOLITE PLASTER FIREPROOFING
ZONOLITE ACOUSTICAL PLASTIC SOUND-CONDITIONING

Beverly Hilton Hotel, Beverly Hills, Cal.
Arch.: Welton Becket F.A.I.A., & Assoc.
Gen. Contr.: Del Webb
Pl. Contr.: Carroll Duncan
ZONOLITE PLASTER FIREPROOFING
ZONOLITE ACOUSTICAL PLASTIC SOUND-CONDITIONING



Union Oil Office Building, Los Angeles, Cal.
Arch.: Pereira & Luckman
Gen Contr.: Del Webb
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p/a manufacturers' literature

(Continued from page 172)

936. Spartan Ceramic Tile, AIA 23-A-1, 38 p. file folder enclosing data on ceramic tiles. Color photos of actual installations indicate possibilities of tiles; color charts show individual tiles. Illustrates glazed-ceramic mosaics, natural-clay unglazed-ceramic mosaics, natural-clay unglazed dust-press tiles, and unglazed porcelain tiles; reviews physical properties of each type of tile and gives recommended applications; provides dimensions and shapes for each material. Architectural-data section includes tile drawings for several interesting installations; provides drawings of many patterns using large and small tiles. The Sparta Ceramic Co., E. Sparta, Ohio.

939. Col-O-Vin Meets Metal, 16-p. pamphlet introducing semirigid vinyl sheeting which can be bonded to nonferrous metals and steel. Covers properties of laminate which protects metals against abrasion, corrosion, chemicals, and heat; suggests applications for plastic-metal laminate. Includes actual samples of vinyl sheeting in linen and leather textures applied to metal. Columbus Coated Fabrics Corp., Columbus 16, Ohio.

940. Standardized Granite Highway Products (22), 24-p. catalog of products for highway safety and traffic control. Contains data on sloped and vertical curbs of white granite, curb inlets and corners, rubble pavement blocks, and boundary posts; gives recommendations for planning highway approaches, commercial roads, and residential roads. Detailed specifications cover scope, materials, and foundations; photos. H. E. Fletcher Co., W. Chelmsford, Mass.

941. Hermosa Ideas for Your World of Color, 8-p. brochure illustrating decorative uses for glazed ceramic tile. Shows many specially designed decorative tiles as well as standard colors; presents color photos of many recent installations. Gladding, McBean & Co., 2901 Los Feliz Blvd., Los Angeles 39, Calif.

942. Armstrong DeLuxe Corkwall, AIA 23-G, 8-p. brochure featuring cork surfacing material. Shows several shades made from large cork particles strengthened with clear binder resins; also illustrates antiqued patterns achieved by tinting binder resins. Color photos; specifications. Floor Div., Armstrong Cork Co., Lancaster, Pa.

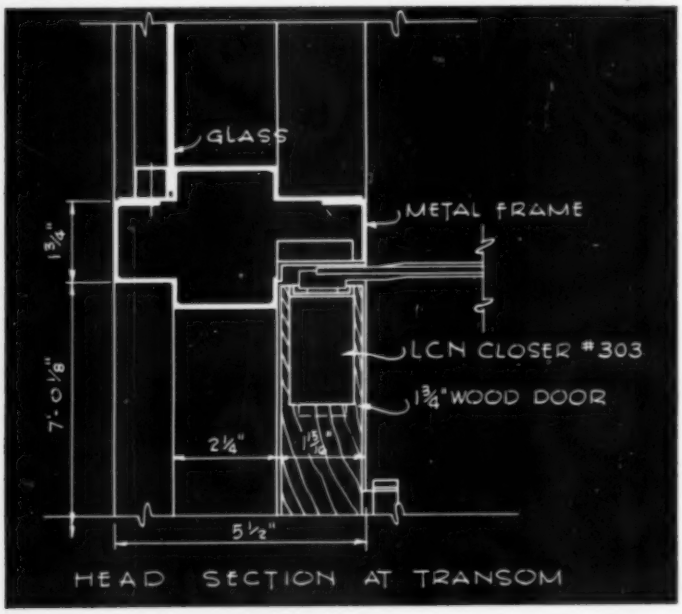
interior furnishings

55. Hall-Mack Bathroom Accessories, 8-p. booklet cataloguing most popular models of chrome-plated towel, tissue, soap, and toothbrush holders; sliding and swinging mirror medicine cabinets; glass shelves and grab bars. Colored centerfold shows two bathroom layouts with featured accessories listed below. Hall-Mack Co., 1380 West Washington Blvd., Los Angeles 7, Cal.

56. Metalab Classroom Equipment, 56-CE, 8-p. catalog on portable tables, desks, benches and storage units functionally designed for arts & crafts, science, or home-making rooms. Features single and double pedestal desks with tapered tubular-steel legs; working surfaces in choice of four materials; under-the-table trays; pullout drawers, shelves, and cupboards; adjustable tops. Illustrates all units with necessary data. Metalab Equipment Co., Hicksville, Long Island, N. Y.

57. Transformation Office Furniture, 8-p. folder displaying contemporary custom-designed desks, tables, chairs, and storage units. Shows assembly of reversible free-form top and stylish tapered legs attached by decorative brass fittings. Emphasizes flexibility. Color, black and white photos. Moselle Desks, Bedford, Ohio.

58. A New Way of Life in the Office (AF-116), 16-p. pamphlet showing flexibility of office layout possible with modular furnishings and partitions. Shows how desk sections combine to form efficient working areas; pictures wood and steel intermediate-height partitions. Describes construction of units; gives suggested office layouts. Arnot-Jamestown Div., Aetna Steel Products Corp., 730 Fifth Ave., New York 19, N. Y.



CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page

The LCN Series 302-303 Closer's Main Points:

1. An ideal closer for many interior wood doors
2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
3. Door is hung on regular butts
4. Closer is simple to install and to adjust
5. Used with wood doors; wood or metal frames
6. Practically concealed control at little more than exposed closer cost

Complete Catalog on Request—No Obligation or See Sweet's 1956, Sec. 18e/L

LCN CLOSERS, INC., PRINCETON, ILLINOIS

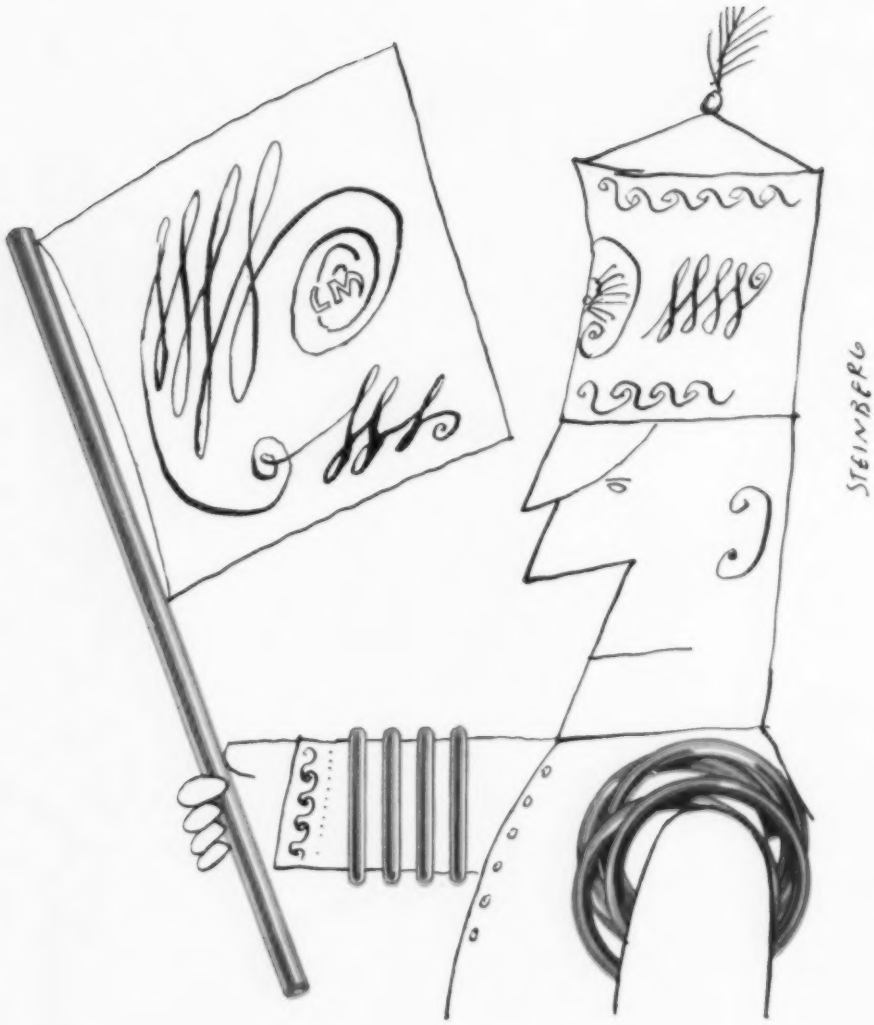
Perkins & Will, *Architects—Engineers*

MODERN DOOR CONTROL BY *LCN* · CLOSER CONCEALED IN DOOR

THE LUTHERAN BROTHERHOOD HOME OFFICE BUILDING, MINNEAPOLIS, MINNESOTA

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page



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top brass

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That's why our plant is completely integrated . . . so we *ourselves* can control quality from raw material to packaged tube. And our 25 Branch Offices and 36 Mill Depots often enable us to provide overnight service when needed.

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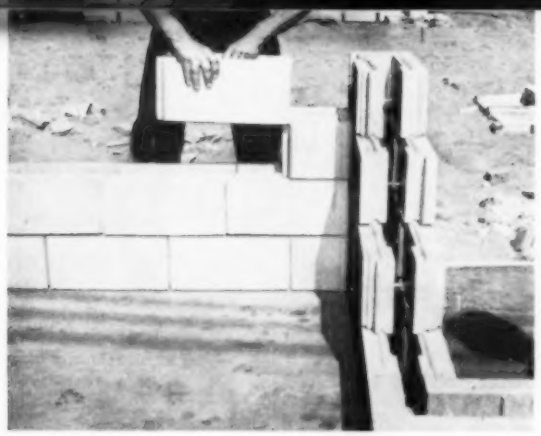
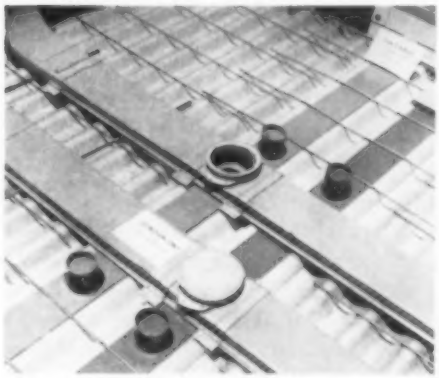


Precision-designed masonry unit combines advantages of concrete cavity-wall construction with simpler, quicker, and more economical erection. Each block is an assembly of two concrete units joined by corrugated-steel ties. Perimeter surfaces are keyed to lock upon erection (above) *eliminating methods used in mortar bonding. After construction, keyed joints are pointed by hand or mortar gun to form permanent moisture seal. Economical design requires no added reinforcing; ease of construction permits employment of semi-skilled labor. Suitable for building patios, garages, outdoor fireplaces, or other simple structures. The Presto Block Machine Corp., Empire State Building, New York, N. Y.*

One-, two-, or three-cell E-R Cofar units offer practical means for electrical wiring of concrete floors in office buildings. Used in conjunction with standard Cofar—combined form and reinforcement for concrete slabs—new material carries power, telephone, or signal circuits. Two-cell system (below) *having optional preset inserts is installed with junction box and header duct to activate cells. Granco Steel Products Co., 6506 N. Broadway, St. Louis, Mo.*



Six-life fuse (left) *which can be renewed without removing, also has built-in safeguards to prevent accidents. Tiny beacon glows when fuse blows; small knob is then turned to next position to restore current. Different colors are used to distinguish 15-, 20-, and 30-amp fuses. A. Lawrence Karp, 16 Putnam Park, Greenwich, Conn.*

New development in control of high-velocity dual-duct air-conditioning systems eliminates certain defects of ordinary operation. In most systems, change of temperature in one room inadvertently affects air flow or temperatures in adjacent rooms. By providing air-blender units for each room, new system permits individual control of total flow and temperature without repercussions upon other rooms. Air blender (top right) *contains hot-air valve which controls supply of heated air demanded by thermostat and separate cold-air valve to maintain constant CFM rate preset on flow-regulator dial* (bottom right). *In this way, air balance is achieved automatically. Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave. S., Minneapolis 8, Minn.*

New threshold design for sliding glass doors

Stainless steel track and advanced sloping design insure easy sliding, completely weathertight installations

How easy will a sliding glass door operate? How weathertight will it be? The answers to both these important questions are dependent upon the right kind of threshold design.

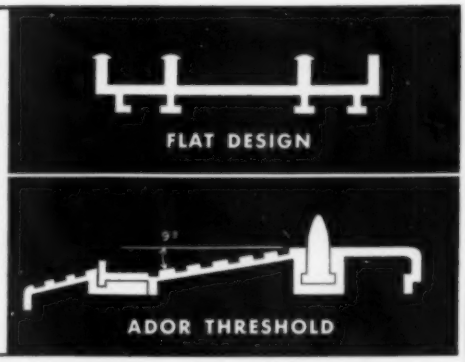
New advances in threshold design are best characterized by the Ador all-aluminum sliding glass doors. Here, a unique combination of a raised stainless steel track and sloping threshold assure easy, gliding door movement plus new reliable weathersealing. In the Ador design, the out-dated recessed track has been eliminated, and all deep ridges and channels have been discarded. The result is a smooth, attractively finished threshold which will not collect dirt, mud or water—and is fully weathertight all year around.

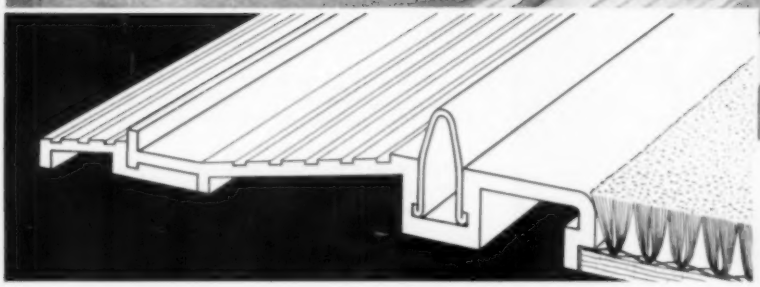
Advanced threshold design is one of many outstanding first-time features found in Ador all-aluminum sliding glass doors. For complete information write: Ador Sales, Inc., 2347 West Commonwealth Avenue, Fullerton, California.

Supermarket foot traffic is dramatic test of successful sliding glass door threshold. Smooth, gliding door operation and finished, unobtrusive lines of the threshold of these Ador doors make entry easy—and safe.

Ador **America's foremost all-aluminum sliding glass door**

Flat versus Sloping Threshold Design: In the *flat* design, the recessed track collects dirt and water which clog up at the door and interfere with motion. In the Ador *sloping* design, the 9° slope provides a raised section for the track—this bars entry of dirt and water, and prevents track and rollers from becoming clogged.

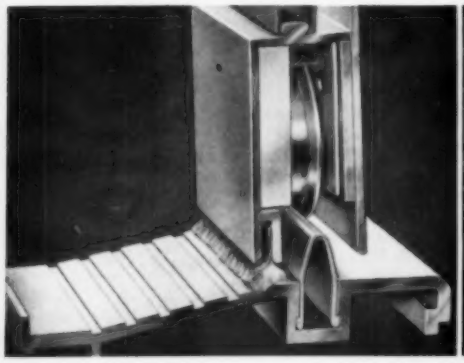




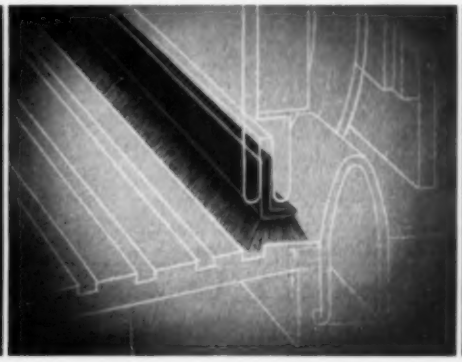
THE ADOR SLOPING THRESHOLD has a full 5¼" width and a modern, low silhouette, free of the obstructions of customary thresholds which often catch heels. Note the clean, attractive appearance of this threshold design.

Ease of Maintenance is characteristic of the new sloping threshold. A broom whisks surfaces clean, because the threshold has no deep ridges or channels to collect or retain dirt or water.

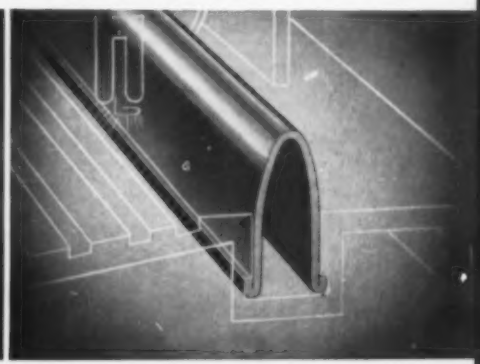
Threshold and door track of Ador unit. Exclusive lifetime lubricated stainless steel ball bearing sheaves move on a stainless steel track.



Continuous gliding seal mohair weatherstrip has positive contact with threshold to provide an absolute barrier to wind, sand, dust and water.



Stainless steel track is locked into keyway and caulked to eliminate water and dirt seepage. Ador track has a smooth, rounded edge.



p/a products

(Continued from page 179)

air and temperature control

High-Heat-Output Units: greater wattage per sq in. with reduced installation and purchase costs are advantages of new glass radiant-heating units. Compact units attain as much as 2000 and 3000 w and one will suffice where formerly two or three were required. Series of four models is offered with or without built-in thermostats; available in 3000- and 2000-w models (240 v), 1250-w (120-240 v), and 750-w (120-240 v) recessed heater for small rooms. Berko Electric Mfg. Corp., 212-40 Jamaica Ave., Queens Village, N. Y.

construction

Huetex Spandrel Glass: designed to add color and texture to curtain walls, new material is sandwich panel of 5/16" tempered glass over ceramic enamel with aluminum backing. Surface glass is tempered to increase strength and textured to subdue reflection; welded-aluminum backing protects colored enamel and reflects heat. Spandrel, available in 12 colors, is recommended for storefronts and interiors. Libby-Owens Ford Glass Co., Nicholas Building, Toledo 3, Ohio.

Plasti-Grip Expansion-Joint Waterstop: versatile extruded-plastic product can be used as expansion or construction joint or as waterstop. Deep grooves grip concrete while reinforced U-shaped center pleat expands and contracts with joint. Polyvinylchloride joint remains flexible at low pressures, and resists acids, alkalids, or water-pressures up to 125 ft. head. Supplied in continuous strips of 100'—5" or 6" wide—plastic material can be cut with knife and easily spliced with hot iron. Progress Unlimited Inc., 15 W. 44 St., New York 36, N. Y.

doors and windows

Steelcraft Folding Closet Door: dirt-catching floor tracks are eliminated by new-type folding door of hinged, steel panels. When closed, small center plate keeps door rigid; pivoting action of single-fold units is facilitated by nylon bushings. Wide choice of finishes include color coating or wood-grain effects. Widths range from 1'-6" to 5'-0"; 6'-8" or 8'-0" high. Low-cost units are individually packed with hardware, fastenings, and installation instructions. Steelcraft Manufacturing Co., 9017 Blue Ash Road, Rossmoyne, Ohio.

Aluminum Windows: low-cost partition-to-partition aluminum windows are designed for buildings of all types where large or continuous windows are desirable. Standard-size glass is held by weatherstripped vents that slide in stainless-steel on nylon roller bearings; sliding vents are interchangeable, eliminating hazards of exterior washing and glazing. Can be shipped in sections for assembly on site. Special locks provided on request. Manufactured in heights up to 5'-6" and width as specified. Luria Building Products, Inc., Bristol, Pa.

electrical equipment, lighting

VHO Fluorescent Lamp: very-high-output fluorescent lamp is claimed to provide 2½ times more light than conventional fixtures of similar size. Unit uses neon in place of argon gas, and continuous filament heating for rapid start; new pressure-control center is said to fix pressures and temperatures within correct operating range. Two models—100-W, 4' unit (6200 l) and 200-w, 8' unit (13,250 l)—available only in "Cool White" color for indoor and outdoor application; smooth-surface, tubular lamp has 1½" diameter. Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

Service Entrance Switch: compact, five-pullout service switch is intended to meet requirements of numerous home appliances. Single cabinet houses four 240-v branch circuits to accommodate large appliances, 100-amp main pullout, and eight 120-v plug-fuse circuits. Surface- or flush-mounted switch contains sub-feed lugs; cabinet size is 21⅛" x 12⅞" x 3⅞". Amer-

(Continued on page 188)

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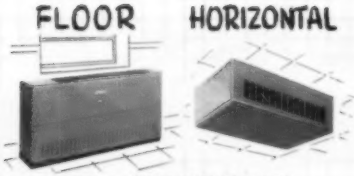
FLOOR HORIZONTAL



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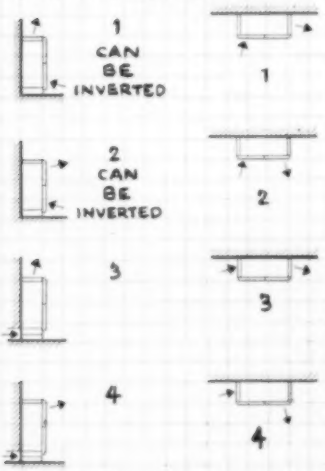

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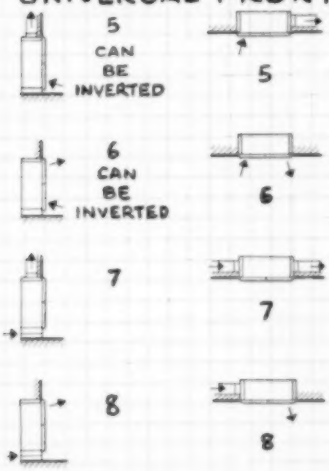

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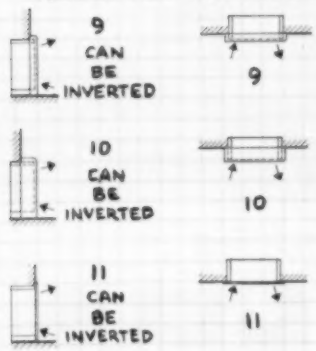
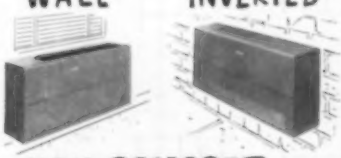


WALL INVERTED



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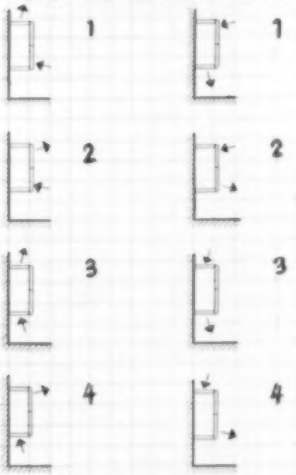

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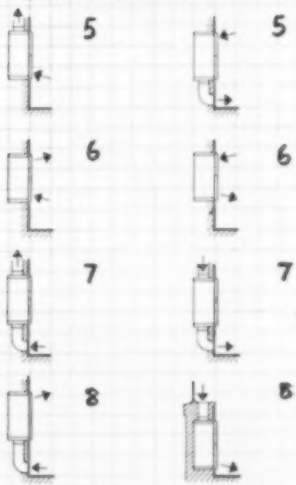

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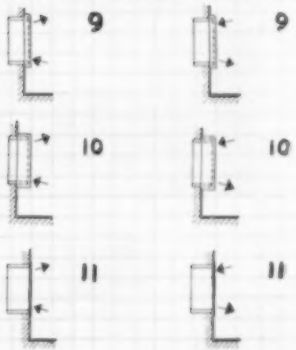

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REYNOLDS ALUMINUM

National Bank of Commerce, San Antonio
Architect: Kenneth Franzheim, F.A.I.A., Houston
Associate Architects: Atlee B. and Robert M. Ayres, San Antonio
General Contractor: The Henry C. Beck Company, Dallas
Reynolds Aluminum Applications in this Building:
Reynolds Series 100 Vertically Pivoted Windows

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REYNOLDS

IN MODERN ARCHITECTURE

Exchange Bank & Trust Company Office Building, Dallas, Texas

Architects:
Lane, Gamble and Associates, Dallas

General Contractor:
Robert E. McKee General Contractor, Inc., Dallas

Curtain Wall Fabricator:
The Browne Window Manufacturing Company, Inc., Dallas

Reynolds Aluminum Applications:
Aluminum Extrusions for Sun Shades

First National Bank of McAllen, Texas

Architects:
MacKie and Kamrath, A.I.A. Houston

Associate Architects:
Lloyd Borget and Kenneth Bentsen, Houston

General Contractor:
M. R. Nelson Company, McAllen

Integrated Wall System Fabricator—Erector:
Texlite, Inc., Dallas

Reynolds Aluminum Applications:
Extrusions for Wall Framing System

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ALUMINUM

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proves incombustibility of

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BOARD

Last winter fire broke out in one bay of a large industrial plant in Canada. The performance of Fesco Board in that fire will be of interest to every architect. Here are the facts:

THE ROOF was 4-ply, T & G, with 1" Fesco Board over vapor barrier on steel decking.

TEMPERATURES in the bay reached 1600°, heat so intense that steel roof members and steel decking buckled.

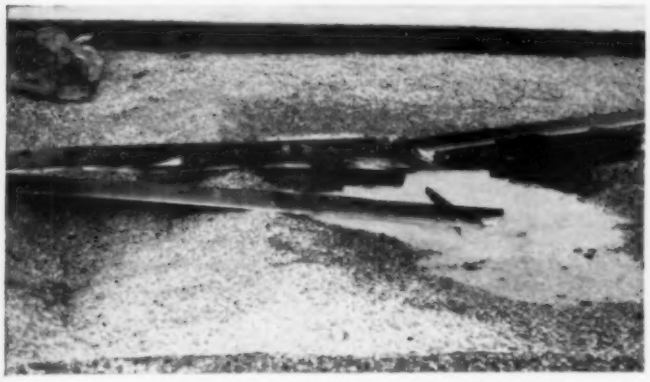
THE FIRE SOURCE was of such great volume and volatility that it raged for one hour and fifteen minutes before being extinguished.

FESCO BOARD remained intact, unfissured and unbroken, preventing flame tongues or fire balls from breaking through the roof and spreading fire to other bays.

FIRE DAMAGE was limited to the single bay where it originated.

A detailed case history of the performance of Fesco Board in this fire will be shown on request. Here is dramatic proof that Fesco Board provides an ideal combination of properties not found in any other roof deck insulation board. —— Write for sample and data.

Water from firemen's hose stands on unbroken deck over fire-damaged bay. Fesco prevented "break through" of fire, though 1600° temperatures buckled steel roof members and decking.



Roofing peeled back for inspection shows heat warped steel deck, charred vapor barrier, undamaged Fesco Board. Note strong bond of Fesco Board to felts—pried loose from board with spade.

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RATED FIREPROOF MATERIALS, ACOUSTICAL & INSULATING

Developers and producers of incombustible mineral products including Ebbtone Acoustical Tile, Fesco Insulation Board, Coralux Acoustical Plaster, Coralux Perlite Aggregates, Mica Pellet Vermiculite, High Temperature Insulating Blocks and Insulating Cement.

p/a products

(Continued from page 182)

ican Electric Switch Division, Clark Controller Company, 1146 E. 162 St., Cleveland, Ohio.

UVR Light-Stable Diffusers: new polystyrene-plastic lighting diffusers for fluorescent lamps are claimed to have six times as much light stability as ordinary plastics. Special ultraviolet-light-absorbing material is permanently fused with plastic on side nearest light source; process is said to provide maximum protection against discoloration caused by ultraviolet rays emitted by fluorescent lamps. New diffusers are claimed to retain initial color even after 60,000 lighting hours, without loss of hiding power, light transmission, toughness, or satin-smooth finish. Sheffield Plastics Inc., Sheffield, Mass.

finishes, protectors

CPC Paint, Varnish and Sealer Base: new multiple-paste pigments, utilizing chlorinated polyphenal, produce paint products reported to exhibit many advantages. Metallic paints, generally impractical due to discoloration and oxidation, are freed from both hazards by new formula; marine paints are said to have toxic effect on bacteria and therefore prevent barnacles; sealing and surfacing paints are noncorrosive, nonoxidizing, noninflammable, waterproof and can be made ordorless as well. Chemical Sealers, Inc., 1121 East B St., Belleville, Ill.

specialized equipment

GE Electronic Oven: new built-in oven combines advantages of microwave cooking with conventional electric baking and broiling elements. Microwaves (ultra-high-frequency radio waves) cook food from within by causing molecular action in food, which generates heat; process—which confines all heat within food itself—cooks foods and thaws frozen foods in ½ to ⅛ normal time. Magnetron unit converts 220/240-v current into radio waves; microwaves are distributed to oven interior only by rotating antenna. Since electronic cooking does not brown foods on outside, electric broiling coil is provided; electric baking element is included for few foods which bake better by conventional means. Built-in oven is manufactured in standard size, but magnetron unit must be stored in cabinet below. Range & Water Heater Dept., General Electric Co., Appliance Park, Louisville 1, Ky.

Alliance Bathtub: new two-sided bathtub allows increased flexibility in planning bathroom facilities. Tub has completely finished apron on each side; opaque, sliding shower doors, enclosing tub on both sides, permit bathtub to serve two separate bathrooms. Tub is manufactured in five-ft length only. AllianceWare Inc., Alliance, Ohio.

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Compton, California
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Coast Insulating Products, Los Angeles
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H. W. Rivett Company, Sacramento
COLORADO
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CONNECTICUT
Wilson Construction Company, Hartford
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Anning-Johnson Company, Miami
GEORGIA
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IDAHO
Fiberglas Engineering & Supply, Boise
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Stokes Incorporated, Jackson
MISSOURI
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Kelley Asbestos Products Co., Omaha
NEW JERSEY
Connor & Company, Inc., Kenilworth
Kane Acoustical Company, Inc., Fairview
NEW MEXICO
Fiberglas Engineering & Supply, Albuquerque
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The Cronin Acoustical Company, Stony Point
Davis Acoustical Corp., Albany
Davis-Fetch & Company, Inc., Buffalo and Jamestown
Robert J. Harder, Inc., Lynbrook, L. I.
James A. Phillips, Inc., New York
Rochester Davis-Fetch Corp., Ithaca and Rochester
NORTH CAROLINA
The Bonitz Insulation Co., Greensboro and Goldsboro
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Anning-Johnson Company, Knoxville
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Blue Diamond Company, Dallas
Builders Service Company, Fort Worth
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Utah Pioneer Corporation, Salt Lake City
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Anning-Johnson Company, Alexandria
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for any design accepted. This $100 is paid you simply for the right to reproduce your project in the Mars Outstanding Design Series. There are no strings attached. You will be given full credit. (See ad on facing page—one of the ads in the current series.) All future rights to the design remain with you. You can reproduce it later wherever you like and sell or dispose of it as you wish.

The subject can be almost anything—aviation, space travel, autos, trains, buildings, engineering structures, household items, tools, machines, business equipment, etc. It should be a project that appeals to design-minded readers, be of broad interest, and be attractively presented. Do not submit a design that has been executed. As a matter of fact, the project does not need to have been planned for actual execution. It should, however, be something that is either feasible at present or a logical extension of current trends. It cannot be unrealistic or involve purely hypothetical alterations of natural laws.

There is no deadline for entries but the sooner you send yours in, the greater the probability of its use as one of the subjects in the 1957 Mars Outstanding Design Series.

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Just mail in an inexpensive photostat or photocopy of the subject—one you can spare, since it cannot be returned.

If your entry is accepted, we will ask you to send in a sharp photograph of the design, or the design itself, so that we can make a sharp photograph suitable for reproduction—after which it will be returned to you promptly.

Send your entry to:

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DICAROLIS COURT, HACKENSACK, NEW JERSEY

p/a reviews

books received

Decorative Designs for Contemporary Interiors. Konrad Gatz. Architectural Book Publishing Co., Inc., 883 First Ave., New York, N. Y., 1956. 240 pp., illus., $12.75

Oscar Niemeyer: Works In Progress. Stamo Papadaki. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1956. 192 pp., illus., $10

A Treatise On Surveying. Vols. I & II, 6th Edn. Edited by W. Fisher Cassie. Philosophical Library, Inc., 15 E. 40 St., New York, N. Y., 1956. $20 set

ancient glories

Eternal Egypt. *Clement Robichon and Alexandre Varille. Philosophical Library, Inc., 15 E. 40 St., New York 16, N.Y., 1955. 146 pp., illus., $6*

Rome of The Caesars. *Pierre Grimal. Phaidon Press Ltd., 5 Cromwell Pl., London SW 7, England, 1956. Distributed by Garden City Books, Inc., 575 Madison Ave., New York 22, N.Y., 118 pp., illus., $5.75*

Taken singly, each of these picture books has a singular message to impart and is very special in its field. The camera eye probes deep into the roots of its subject; not so deep perhaps as the painter's eye, but it is far less biased. Photographs in both books are arranged in travel sequence, meaning we approach each place from afar, explore its faces, enter if we may, and then proceed, occasionally looking back for a view of the whole complex.

With a brief introduction, Alexandre Varille, writing about Egypt, launches us upon the Nile at Cairo. Unless we have a particular interest in or understanding of the Moslem world we will hurry through these first pages until we sight the more familiar Pyramids of Giza off in the distance. Then follows the whole panoramic story of ancient Egypt indelibly engraved in every nook and cranny, around every column and across every wall; reading from temple to tomb, inside and out; ignoring structural expression and destroying

Why IRONITE® Waterproofing will solve your most difficult water leakage problem

"Ironite" Waterproofing is an extremely fine iron powder which can be mixed with water and applied with a brush. The iron particles are carried in suspension and thus work their way *immediately* into any and all cavities in concrete, brick, stone and other porous masonry building materials. This makes it possible to "flow it" into the most inaccessible spots.

Bulletin No. 701 tells how and why Ironite Waterproofing is used and explains how the iron particles thus oxidize and expand with such force as to form an INDESTRUCTABLE UNION with the porous surfaces. This *structural integration* results in a continuous structural mass from which the water resistant compound cannot be separated. It can be successfully applied to the Inside Surface of below grade masonry!

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- . . . **Because it is not merely an outer coating.**
- . . . **Because it cannot scale, blister, crack or peal.**
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- . . . **Because IRONITE Waterproofing has proved its ability to stand up indefinitely in some of the world's most famous buidings.**

For further information write for Bulletin No. 701, IRONITE COMPANY, City National Bank Bldg., 208 South LaSalle Street, Chicago 4, Ill.

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spatial effects in the zeal for permanent immortality. The strength of the ruling class made possible tremendous long-range planning and resulted in an unparalleled unity and harmony of style, symbolism, and technique. Everything was built in colossal proportions befitting the mighty kings who spent life preparing for death and the afterworld.

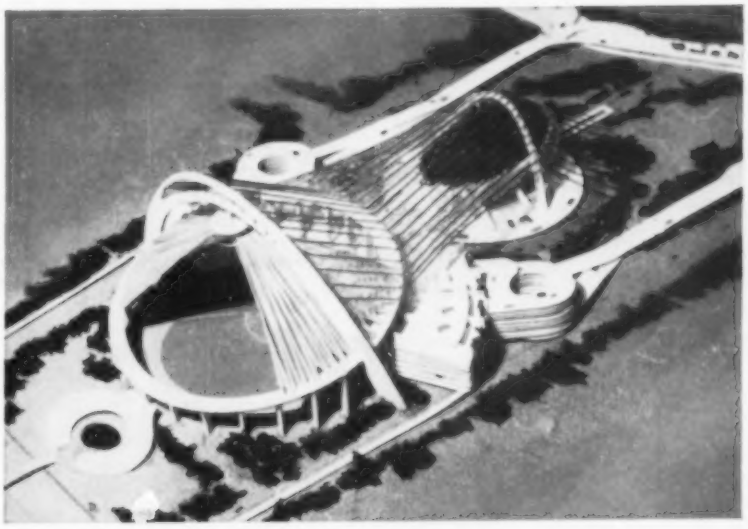
Strange, indeed, are such concepts in our time and strange, too, did they seem to the Roman. He built in haste for present needs; relished the sensual world; regarded religious beliefs with suspicion. Rome is not remembered for artistic originality, due to a practical-materialistic turn of mind. Instead, Rome created a strong army and a system of organization, stability, and political unity that is unique in history. This particular genius was manifested in architecture by a mastery of physical space.

The Rome of the Caesars began at the market place or Forum, according to Pierre Grimal who has compiled a volume of excellent photographs. Rome functioned as a republic until, grown large and unwieldy, it was transformed into an empire by Augustus. Under his rule, the Forum of Caesar was completed. Afterward, the succession of competent and incompetent emperors continued to alter the existing city, adding triumphal arches, palaces, and tenements—and inserting large plazas to relieve growing congestion. Mechanics of construction won importance over architectural style. The basilicas, baths, roads, and aqueducts showed their engineering skill; pleasure gardens, plazas, amphitheaters testified to their joy in living. All the art must be viewed from a political angle to be understood, for Roman art was propagandistic and only valuable in so far as it advanced the views of the state.

As the Egyptians were compulsive preservers, the Romans exulted in publishing their glory and showing

(Continued on page 196)

MARS outstanding design **SERIES**



umbrella'd stadia

While it isn't always true, an interesting approach often results in a good design, as in these twin all-weather stadia designed by Harry Barone and Arnold Horn, Pratt architecture students. Each bowl would be umbrella'd by its own tentlike roof of translucent plastic, hung from the center of soaring arches. Accordion-pleated, these roofs are planned to fold together out of the way in fair weather, their lower edges riding along the rims of the bowls. Cables that guy the arches form a decorative pattern tying the two stadia together. The big football-baseball bowl would hold 65,000 spectators; the smaller, 20,000.

No matter which of today's bright ideas become tomorrow's reality, it will be as important then as it is now to use the best of tools when pencil and paper translate a dream into a project. And then, as now, there will be no finer tool than Mars—from sketch to working drawing.

Mars has long been the standard of professionals. To the famous line of Mars-Technico push-button holders and leads, Mars-Lumograph pencils, and Tradition-Aquarell painting pencils, have recently been added these new products: the Mars Pocket-Technico for field use; the efficient Mars lead sharpener and "Draftsman's" Pencil Sharpener with the adjustable point-length feature; and—last but not least—the Mars-Lumochrom, the new colored *drafting* pencil which offers revolutionary drafting advantages. The fact that it blueprints perfectly is just one of its many important features.

The 2886 Mars-Lumograph drawing pencil, 19 degrees, EXEXB to 9H. The 1001 Mars-Technico push-button lead holder. 1904 Mars-Lumograph imported leads, 18 degrees, EXB to 9H. Mars-Lumochrom colored *drafting* pencil, 24 colors.

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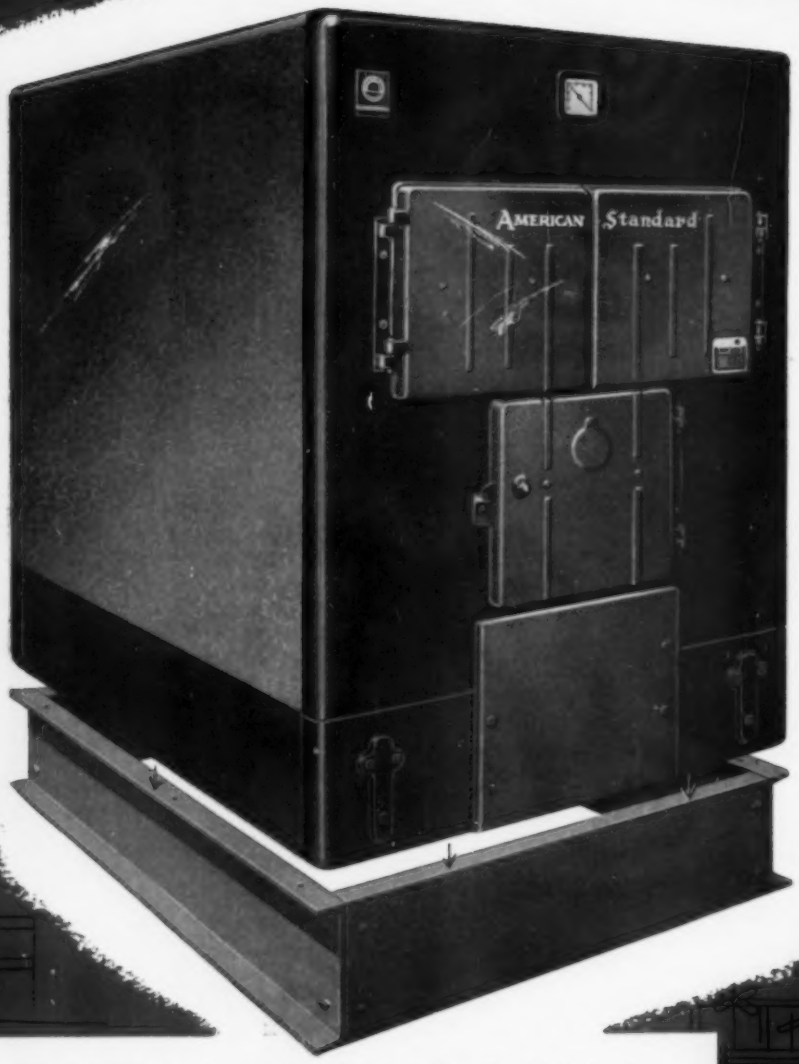

NEW A-7 BOILER—Compact, cast iron boiler—for all fuels—has two new exclusive features. First is the new steel pedestal base, which eliminates costly pit and special brick base construction for automatic firing. Second is the new waterways design, which assures proper and continuous water flow, high water level, no lag in waterways and smooth steaming.

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When you specify American-Standard plumbing, heating and cooling, you can be sure these products complement the modern design and serviceability of your building for years to come.

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For complete information on these products, write to American-Standard, Plumbing & Heating Div., 39 West 39th Street, New York 18, N. Y.

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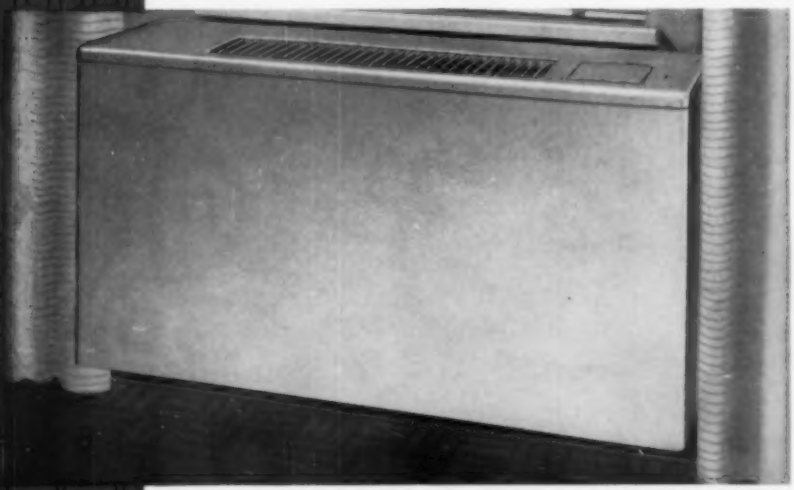
NEW LEDGEWORTH CAST IRON DRINKING FOUNTAIN AND RECEPTOR—Offers improved sanitation and great utility. Ideal for school planning. This versatile fixture also has commercial, industrial, laboratory, club and church applications. Comes in 2 sizes—6 colors and white.



NEW SELF-CONTAINED REMOTAIRE YEAR 'ROUND AIR CONDITIONING—Complete flexibility gives new freedom of design. One unit may be heating, while another is cooling the adjacent room. Self-contained refrigeration circuit needs no water, central cooling plant or ductwork. Connects to two pipe steam or hot water for heating. One cabinet size for ¾ or 1 hp unit. The ¾ hp operates on 115, 208 or 230 volts; the 1 hp on 208 or 230. Available with top or front grille. Fits flush with outer wall.

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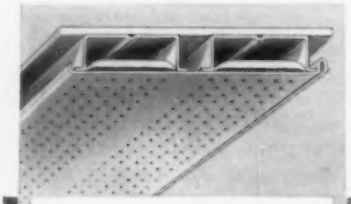
PLUMBING AND HEATING DIVISION

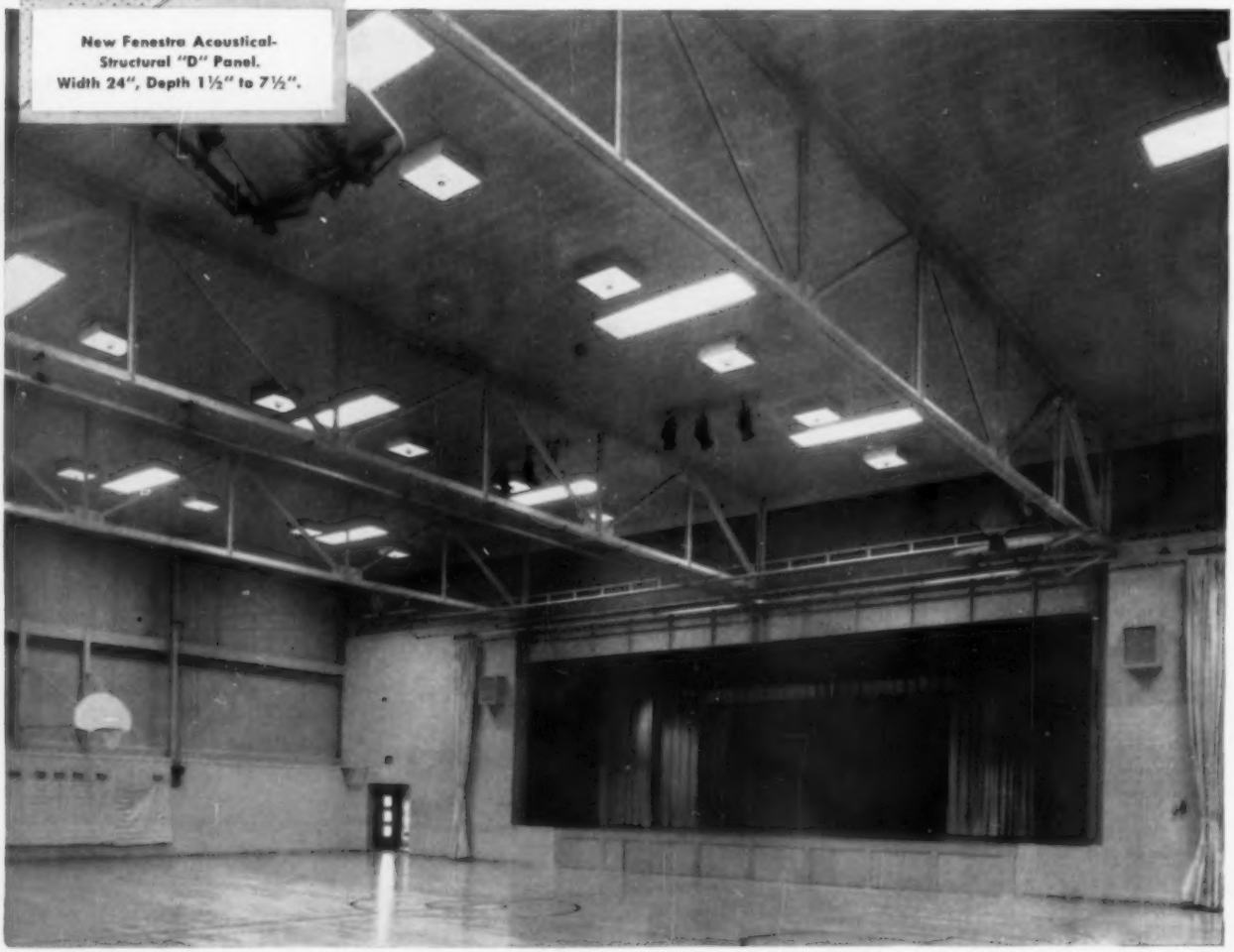
Fenestra
SCHOOL DESIGN NEWS

Seymour High School, Seymour, Wisconsin, cost only slightly over $10.00 per square foot to build. The entrance is oriented to protect it from prevailing storms, and the large canopy allows unloading several school buses at one time without exposing the students to winter weather. This school contains over 55,000 square feet, including all the classrooms and specialized teaching facilities required by a modern high school.
Architect: **Lawrence Monberg & Associates, Kenosha, Wisconsin.** *Contractor:* **Peter Rasmussen & Son, Oshkosh, Wisconsin.**



New Fenestra Acoustical-Structural "D" Panel. Width 24", Depth 1½" to 7½".

Fenestra Acoustical-Structural Building Panels form the roof for this combination gymnasium and auditorium at Seymour High School. Efficient acoustical treatment inside the panels cannot be harmed by objects striking the ceiling. This room was designed so that spectators would not have to cross the playing floor to reach the bleachers and so that daylighting would not produce sun shafts or bright spots on the playing floor. The gymnasium entrance is located off the school lobby so that it may be easily used for evening activities. The Music Department adjoins the stage and is isolated from the classrooms to eliminate disturbance and noise.



How Fenestra* Acoustical-Structural

Building Panels help you

BUILD BETTER SCHOOLS AT LOWER COSTS!

School building costs reduced as much as $2.00 per square foot over similar building in the same area—that's typical of the experience of school boards and architects who take advantage of the design and building economies of modern Fenestra Acoustical-Structural Building Panels.

Seymour High School, Seymour, Wisconsin, is a good example of the fine schools now being built in many sections of the country with this unique building product. Its basic structural system consists of Fenestra Acoustical-Structural Building Panels on bearing walls.

These lightweight, high-strength steel panels form the structural roof and the finished interior ceiling with *"built-in" acoustical treatment.* They replace *five* different materials—usually requiring extra labor and cost—with *one* prefabricated metal building unit, erected in *one* operation by only *one* trade.

The unique cellular design of Fenestra Acoustical-Structural Building Panels makes them strong enough to span up to 31 feet under normal roof loads and provide lateral support for the bearing walls. Their width —24 inches—fits perfectly with modular design techniques. This speeds up construction and eliminates cutting and fitting of the panels and other materials on the job.

The flat bottom surface of the panels, which forms the interior ceiling, is perforated. Sound absorbing material that produces a noise-reduction coefficient of 80% is enclosed *inside the panels.* It cannot be harmed by painting or maintenance cleaning. There is no "stuck-on" material to discolor or fall off and require replacement. Because this plate is a part of the structural panels it is made of 16-gauge steel—4 times thicker than the usual metal pan ceiling construction. This assures extra resistance to damage by objects thrown against the ceiling or other impact. You save money on maintenance costs year after year!

The library at Seymour High School, as well as the classrooms, features a Fenestra Acoustical-Structural Building Panel roof for a quiet, pleasant atmosphere and efficient sound control. This school is designed to function as a community center, too. This room opens off the building lobby and other public rooms, and the school offices are combined in this community center unit. They are easily used in the evening without opening the entire school, and visitors do not have to pass through classroom areas.

Room-to-room noise flow is prevented by sound transmission barriers incorporated into the panel design.

Interior masonry bearing walls with Fenestra Panels spanning between them save structural steel and reduce foundation and footing requirements. The exterior walls may be chiefly glass and used only as curtain walls. Schools using this basic structural system have varied in cost from $9.00 to $15.00 per square foot depending upon mechanical facilities, interior trim and school accessories.

All across the country, architects and school boards are discovering that they can design and build better schools at lower costs with Fenestra Acoustical-Structural Building Panels. If you are now planning a new school, you should get complete details on these unique building products and the new design concepts possible with them. Call your local Fenestra Representative, today—listed in the Yellow Pages—or mail the coupon, below. *Trademark

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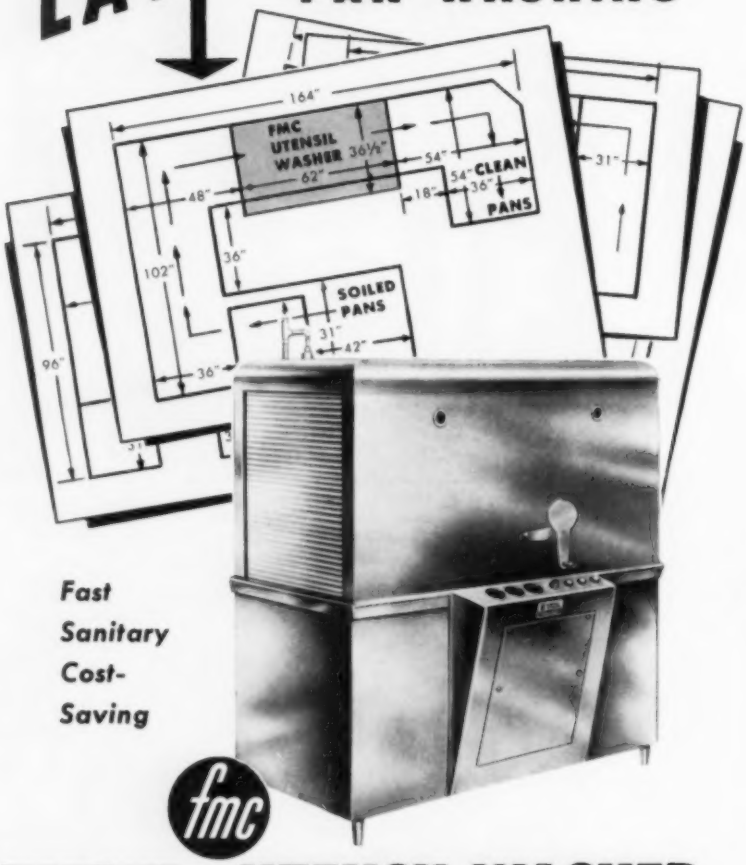

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reviews

(Continued from page 191)

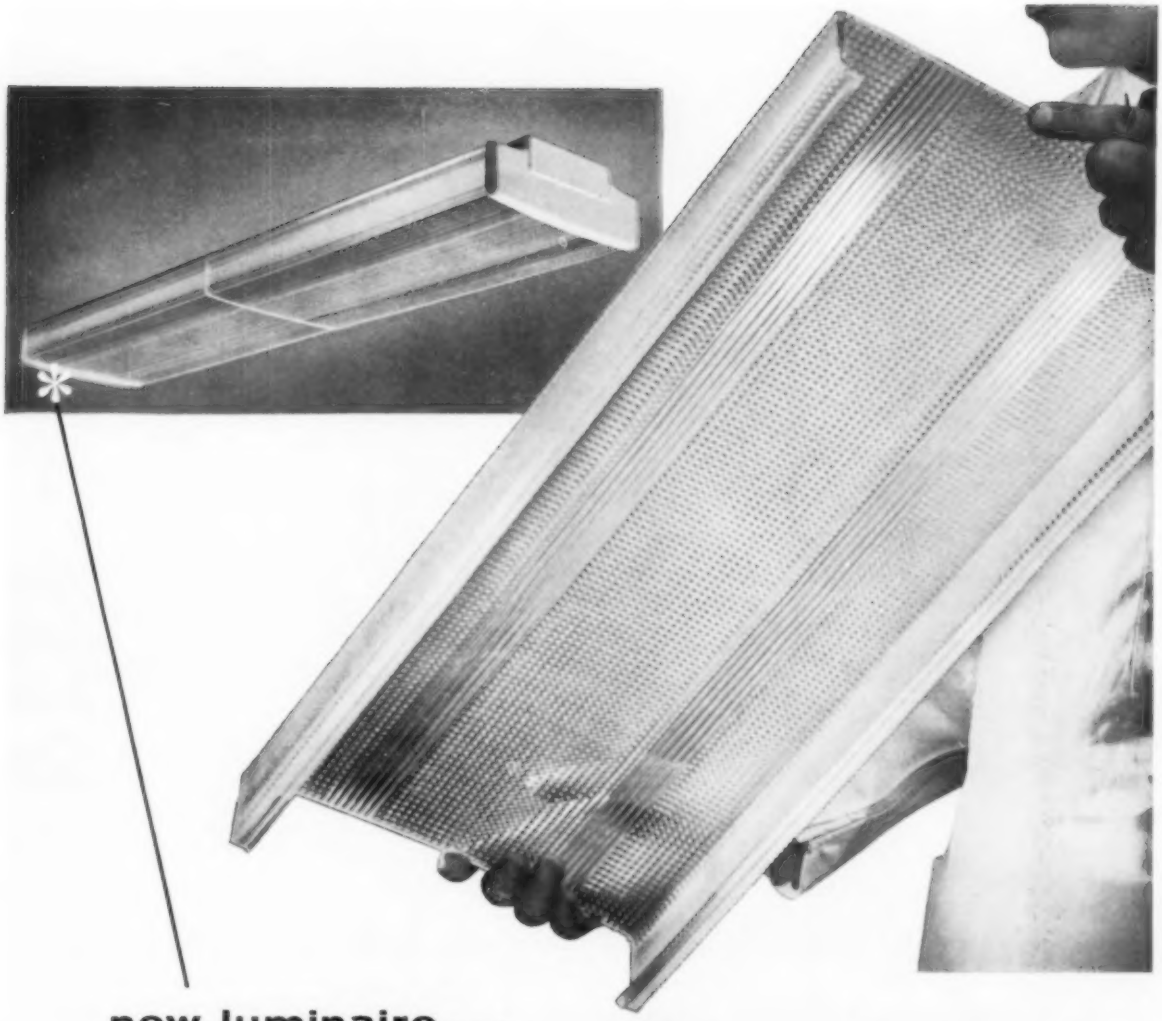
their spoils. This fascinating and complex tale told in pictures entered its final phases when Domitian completed his palace. It was an expression of absolute imperial power, hitherto an odious idea to the Roman people. The emperor was no longer the First Citizen but likened to a god, with a palace that resembled the great pillared halls of Egyptian temples. Now the city had a dual personality. Born of freemen but afflicted with all the abuse of oriental slave empires, it eventually split in two.

Despite the excellent photography in this second book, we are bound to be a bit disappointed with Rome. Unlike Egypt, the new cities in Imperial Rome were not built alongside the old but on top of their crumbling ruins. Rome is not a single city but a series of overlays with some part showing from each period and a total pot-pourri. This Rome where even the ruins are ruined is seen in fragments, bits and snatches, pieces, restorations, and patches. The text, lengthy, captivating, and thought-provoking, brings order to the visual chaos.

Together, these books are more valuable than either studied separately. We discover certain characteristics common to both. For example, though more true of Egypt than Rome, art apart from architecture and architecture without over-all planning were inconceivable. We are aware of an integration of the arts and intelligence absent in our own time. Both civilizations had some unrelenting idea to which all individual works were subordinated. Furthermore, we find that the two cultures were not themselves unrelated. Egyptian influence pervading Rome contributed to her decline.

In relevance to us, the Roman characteristics of our society are unmistakable if not remarkable. Even Egypt is represented by the massive cliff dwellings which house our commercial ventures, their colossal stone,

(Continued on page 200)



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Canadian Distributor: *Crystal Glass & Plastics, Ltd., 130 Queen's Quay at Jarvis Street, Toronto, Canada.*

J-M Movable Walls in the offices of The Travelers Insurance Companies, Hartford, Conn., insure privacy, are architecturally attractive, meet changing space requirements. Architects: Voorhees Walker Smith and Smith

Space savers...space makers

Johns-Manville Asbestos Movable Walls are easy to dismantle and re-locate . . . save space and make space . . . moderately priced

J-M Universal Movable Walls are one of the easiest and most economical of all movable partitions to erect and re-locate. The asbestos panels are flush and projection free, have a clean, smooth surface that is easy to maintain. They are moderately priced.

J-M Universal Walls are available in a textured stipple finish in restful colors. This finish is a tough, hard film much thicker than on the usual movable partition. It is mar- and scratch-resistant . . . rejects stain and soil . . . can be easily washed and even scrubbed, if necessary. If damaged, it can be touched up inexpensively to look like new . . . and, unlike other types of factory-finished partitions, can be repainted with ordinary paint.

Undivided responsibility for a complete job

These flush or glazed partitions are erected as well as supplied by the Johns-Manville Construction Department complete with doors, door hardware, glass and trim.

For complete details about Johns-Manville Asbestos Movable Walls, be sure to consult your Sweet's Architectural File, or write Johns-Manville, Box 158, Dept. PA, New York 16, New York. In Canada, write 565 Lakeshore Road East, Port Credit, Ontario.

See "MEET THE PRESS" on NBC-TV, sponsored on alternate Sundays by Johns-Manville

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The Wiley house,
New Canaan, Conn.,
Philip C. Johnson,
Architect,
New Canaan, Conn.

Photograph by Ezra Stoller,
New York, N. Y.

oriented *to* tomorrow!

floor of *today*...and a million *yesterdays!*

SEE SWEET'S
—Arch. 13J-Ma. for full technical data.

WRITE

for latest official listing of MFMA-approved floor finishing products and methods.

Significant and eminently sound is Architect Philip Johnson's use of "the finest floor that grows" in the upper, or guest, area of this emphatically modern home. For the genial *foot-friendliness* of Northern Hard Maple speaks eloquent *welcome* to all who enter. Its bright tones return both sunshine and lamplight graciously, softly. Its tough, close grain sands easily to mirror smoothness, responds to quick, inexpensive finishing and maintenance, fights abrasion and denting, endures for generations. Regular strip or block and pattern designs, in standard, warranted **MFMA** grades, offer endless variety. *And* Northern Hard Maple costs no more than comparable grades of other hardwood species.

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World's only abrasive rolled-steel floor plate

No production slow-up or excess overtime, either—because ALGRIP's thousands of tiny abrasive friction particles prevented slipping.

Nationwide, ALGRIP—made by a patented process—is cutting accident rates, slashing insurance costs. This easily fabricated, super-safe flooring is tough steel into which a grinding wheel type abrasive has been rolled—*not coated*—to uniform depth as an integral part of the steel. Hard usage merely exposes more abrasive for extra long life.

Make a test installation of ALGRIP in your *worst* slipping area—use it as an overlay or as complete flooring. It will pay for itself as you watch accident rates tumble and morale improve. Call or write today for detailed booklet.

A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*approved for safety by Underwriters' Laboratories*

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Other Products: A. W. SUPER-DIAMOND Rolled Steel Floor Plate—Plates—Sheets—Strip—(Alloy and Special Grades)

reviews

(Continued from page 196)

steel, or glass risers, stepping toward the clouds. Surely this is Egypt misplaced, misapplied to an inappropriate age. The point will not be further expanded to prove that Rome was an incarnation of Egypt and modern America the reflected image of Rome. The pleasure of theorizing is left to the next readers of these two highly enjoyable publications.

R. C.

handy reference

A Dictionary of English Domestic Architecture. *A. L. Osborne. Philosophical Library, Inc., 15 E. 40 St., New York, N.Y., 1956. 112 pp., illus., $6*

Ranging from Norman times right down to the present day, this dictionary is a handy reference book that has long been needed. It provides a vast amount of practical information that will enable anyone to better understand and further his interest in the houses of the English scene, whether they are great mansions or mere cottages. For the ever-increasing number of people—professional and amateur alike—who visit the English country houses that are open to the public, this book is both welcome and useful.

Osborne presents his material in a simple and straightforward manner. He treats the elements of history, planning, structure, ornament, and design by giving the definition of a great many terms in general use. Some are short, others are longer, but they are all explanatory. Quite logically, an alphabetical arrangement has been used so that any item can be picked out readily and, by means of cross-reference, can be "placed" with regard to its surroundings and development. Where the importance of the subject warrants—for such things as paneling, stairs, gates, or plans, for instance—his treatment is in longer essay form.

A particularly important feature

(Continued on page 204)

EXCITING NEW DECORATIVE ESCUTCHEONS FOR RUSSWIN DOORWARE

COVER

Interesting and unusual possibilities for embellishing doorways are offered by new Russwin decorative escutcheons. Russwin designers have gone "all out" to achieve not only distinctive and attractive effects in metals, but also an ultra-modern note in doorware decor with woods. Extension link units are available for long backsets. Be sure to see these creations on display at authorized Russwin distributors . . . everywhere.

PAGE 1

PAGE 2

Reproduced here are four pages of the new, smartly-designed, four-color brochure specifically developed to help Russwin distributors introduce the sparkling array of decorative escutcheons and new knob styles. Metals and woods are shown exactly as they appear. For a copy of this brochure, write Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

RUSSWIN
DISTINCTIVE DOORWARE

PAGE 3

PAGE 4

30% less labor Costs, 15% less Waste

With CELOTEX®

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Double-Waterproofed INSULATING SHEATHING

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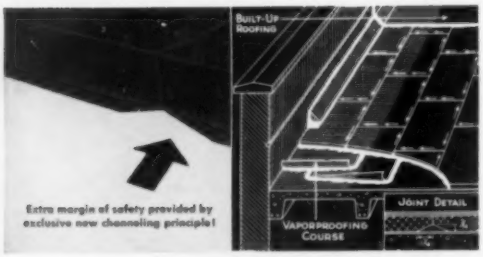
These Celotex Insulation Products Can Simplify, Improve, Cut Costs, On Your Construction Jobs!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Extra margin of safety provided by exclusive new channeling principle!
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CELOTEX CHANNEL-SEAL ROOF INSULATION

New safeguard against blistering, and separation of felt and insulation! Units form network of channels to permit equalization of air pressure throughout roof area. Asphalt-coated on both sides, all edges. Rigid, tough, yet light, easy to handle. Coated surface assures positive bond to both roof deck and roofing felt. Thicknesses for every job specification.

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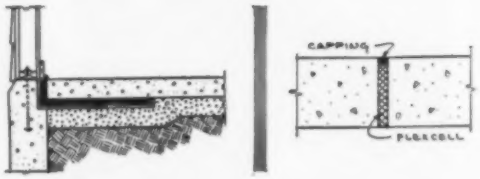

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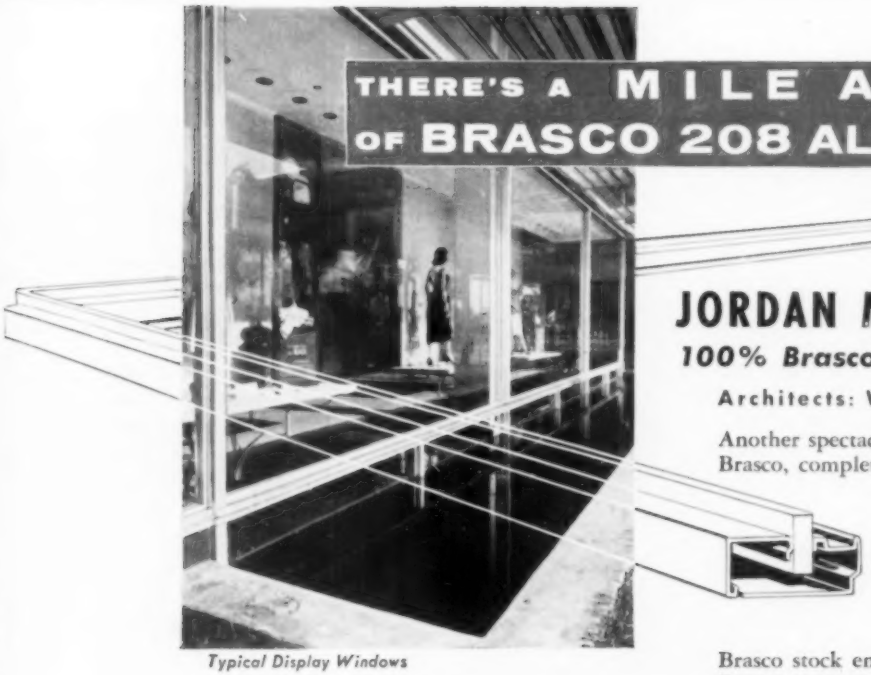

Typical Display Windows

IN THE GLAMOROUS NEW JORDAN MARSH MIAMI STORE

100% Brasco Store Fronts and Entrances

Architects: Weed-Russell-Johnson Associates

Another spectacular architectural achievement goes 100% Brasco, complete with glass-holding sash, bars, mullions and accessory members and with twenty-seven Brasco De Luxe Aluminum Doors. The distinctive new Jordan Marsh store in Miami is the last word in modern appointments and an outstanding example of individuality attained economically with Brasco stock entrances and store front settings. The full Brasco treatment is ideal for chain or independent stores, shopping centers and all types of commercial installations, large or small. Write for complete information and the address of your nearest Brasco dealer specialist.

Front Elevation

Tower Windows

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Architectural Metal Products for more than 45 Years

There may be some risk in showing how Kinnear Rolling Doors solve so many *special* problems, in doorways like the one above.

It might give the impression Kinnear Doors aren't best for *ordinary* needs — which they are.

But in the picture above, note how the traveling crane moves right up to the face of the door. Notice the windows close to the door on either side. Also the steel supports and piping above the doorway. And the way floor and wall space is used clear up to the door jambs.

The Kinnear Rolling Door never gets in their way, and they never impede the door's action.

Because of Kinnear's *coiling upward action*, the whole curtain of interlocking slats coils into a small space above the opening. No usable room is wasted anywhere.

Kinnear *originated* this type of door, more than 50 years ago. It has been industry's first choice ever since.

The rugged all-steel curtain gives extra protection against weather, theft, vandalism and fire. It takes extra years of hard, daily use with minimum maintenance. Accidentally damaged slats can be individually replaced. Heavily galvanized *(1.25 oz. of pure zinc per sq. ft., ASTM standards)* it stands up longer, through toughest weather and climate. Its straight-line design harmonizes with any architectural style or building material.

Kinnear Rolling Doors are built any size, for motor or manual control. Write for full details, or recommendations to fit your needs.

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FACTORIES:
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reviews

(Continued from page 200)

of this book is the series of splendid detailed drawings, upward of two hundred all drawn by the author. Most of them have been derived from actual buildings and they have been selected and arranged to illustrate the articles or the terms they accompany. There are few items in the "Dictionary" which do not have a reference to one or more of the drawings. Text and illustrations thus combine to present a complete survey of the subject.

FRANK A. WRENSCH

chapels recorded

Les Chapelles du Rosaire à Vence par Matisse et de Notre-Dame-du-Haut à Ronchamp, par Le Corbusier. *Les Editions du Cerf, Paris, 1955. Distributed in U.S. by Wittenborn & Co., 38 E. 57 St., New York 22, N.Y. 109 pp., illus., $8.50*

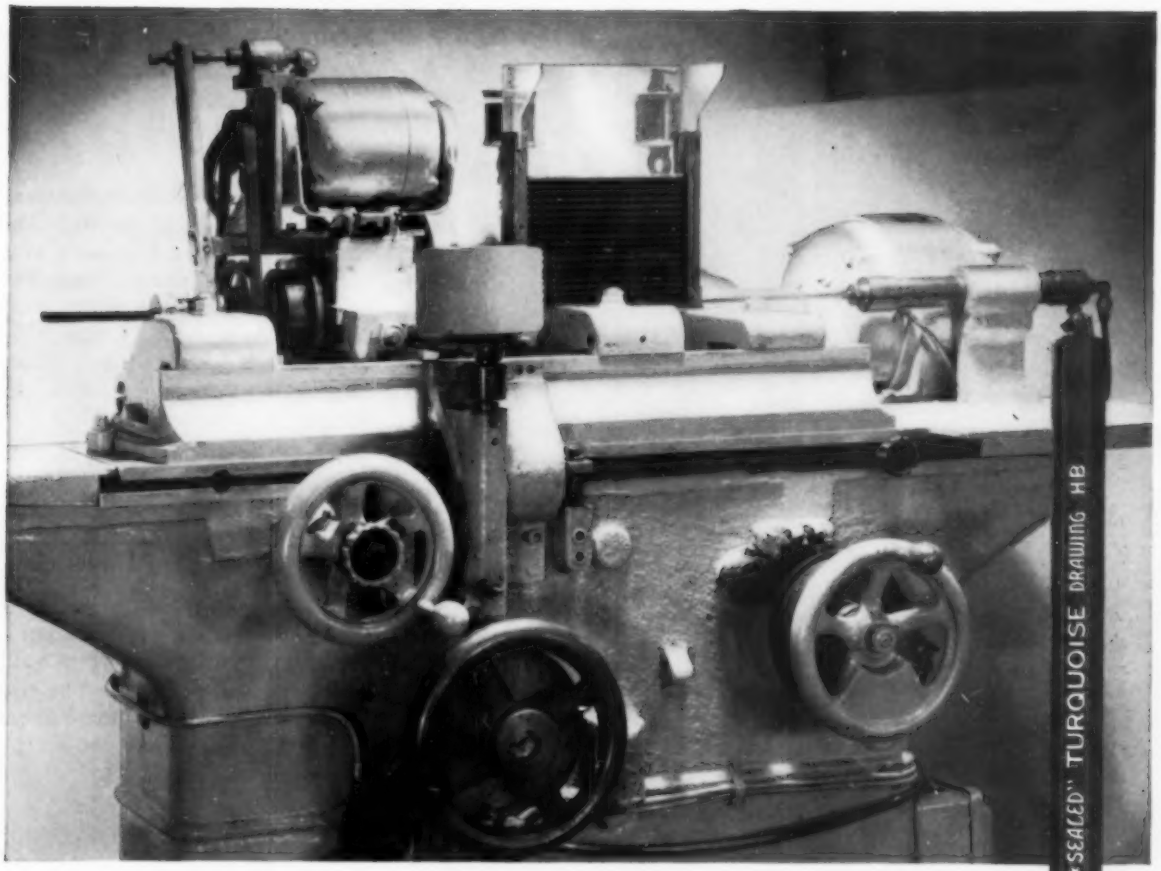
The two French chapels illustrated in this book are of widely divergent types. One was decorated by the famous Matisse; one was designed by Le Corbusier.

The chapel at Venice is a simple, straightforward structure. Its striking, single-line murals were painted by Matisse. As an act of devotion he labored for the four years preceding his death; and often under serious physical handicaps. The strength and simplicity of the line outlines of his figures demonstrate some of the nobler possibilities of this type of decoration.

The pilgrimage chapel at Ronchamp, designed by Le Corbusier, is a complex structure. The reason for its unusual shapes, construction, and some of its features such as the very small apertures for light punched in the thick walls in a disturbingly haphazard manner, is hopelessly obscured. Nevertheless, the building has a feeling of sweep and daring that is appealing.

The text is in French. The illustrations are generous and helpful.

LAWRENCE E. MAWN



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To perfect this gentle giant, Eagle laboratory technicians spent three years and $25,000—because Two-Ton Tillie makes our other pencil tests make sense.

It sharpens *all* test leads, thick or thin, hard or soft, Eagle or competitive, down to a cylindrical point of .050" diameter (± .0001") as illustrated at right. You can see that such a "point" will present a constant area to the paper throughout any test and will let us compare smoothness, durability or opacity on a fair and equal basis.

It will also sharpen at any desired angle, creating identical long-tapered drafting points for needle-point strength tests.

The results enable us to test our research, confirm our improvements and maintain our quality. Whether *you* sharpen your pencil by knife, razor, sandpaper block, or regular pencil sharpener, remember Two-Ton Tillie. It's part of Eagle's continuing research to *keep* TURQUOISE the finest drawing pencil in the world.

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1800 Pre-Engineered rack designs to meet your storage requirements

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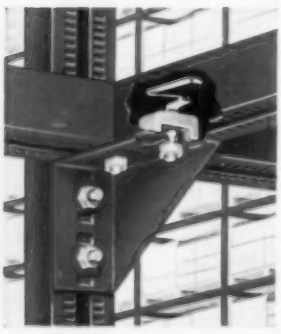

See the secret! Fully-locking serrated channel, exclusive Z-type spring-T-bolt and embossed safety-lock fittings. No side-sway.

What's different about the MULT-A-FRAME method?

IT'S PRE-ENGINEERED. MULT-A-FRAME combines bolted construction savings with made-to-order convenience. Pre-engineering is the secret. Look through our 1800 standard rack designs; select pallet type; list load requirement; and specify rack size. Completely expandable – anytime.

THE 100% SALVAGEABLE WAY. Rack areas may change from time to time? It only takes a wrench to take apart and rebuild MULT-A-FRAME racks. All the parts are completely reusable.

THE LOW LABOR COST WAY. No skilled labor is needed to MULT-A-FRAME. You keep construction costs at a minimum. To learn more about the MULT-A-FRAME pre-engineered method, send today for your free copy of the new rack catalog, "Pre-Engineered and Expandable Racks."

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notices

meetings

UNIVERSITY OF ILLINOIS, Department of Architecture, will hold Fifth Annual Conference for Architects, Oct. 18-20, 1956, at Urbana. For information write Robert J. Smith, Professor of Architecture, Urbana, Ill., or Robert K. Newton, Supervisor, Engineering Extension, 715 S. Wright St., Champaign, Ill.

Seventh Annual Conference of Gulf States Region, AIA, will be held at Lookout Mountain Hotel, Chattanooga, Tenn., Oct. 7-9, 1956. President of Tennessee Society of Architects, Harry B. Tour, is General Chairman.

AMERICAN CONCRETE INSTITUTE's 9th annual regional meeting will be held Oct. 24-25 at Sheraton-Mount Royal Hotel, Montreal, Canada.

p/a congratulates . . .

C. BURT MCKEEHAN, recently promoted to Sales Manager, Door and Plywood Department, THE MENGEL COMPANY, Louisville, Ky.

CARL F. ENGLEBRY, recently named Architectural Service Manager, NATIONAL GYPSUM CO., Buffalo, N. Y.

CHARLES D. MENSER, appointed District Sales Manager, southeastern region, HARVEY ALUMINUM, with offices in Atlanta, Ga.

CARL E. BERZELIUS, named Vice-President of BESTWALL-CERTAIN-TEED SALES CORP., Ardmore, Pa.

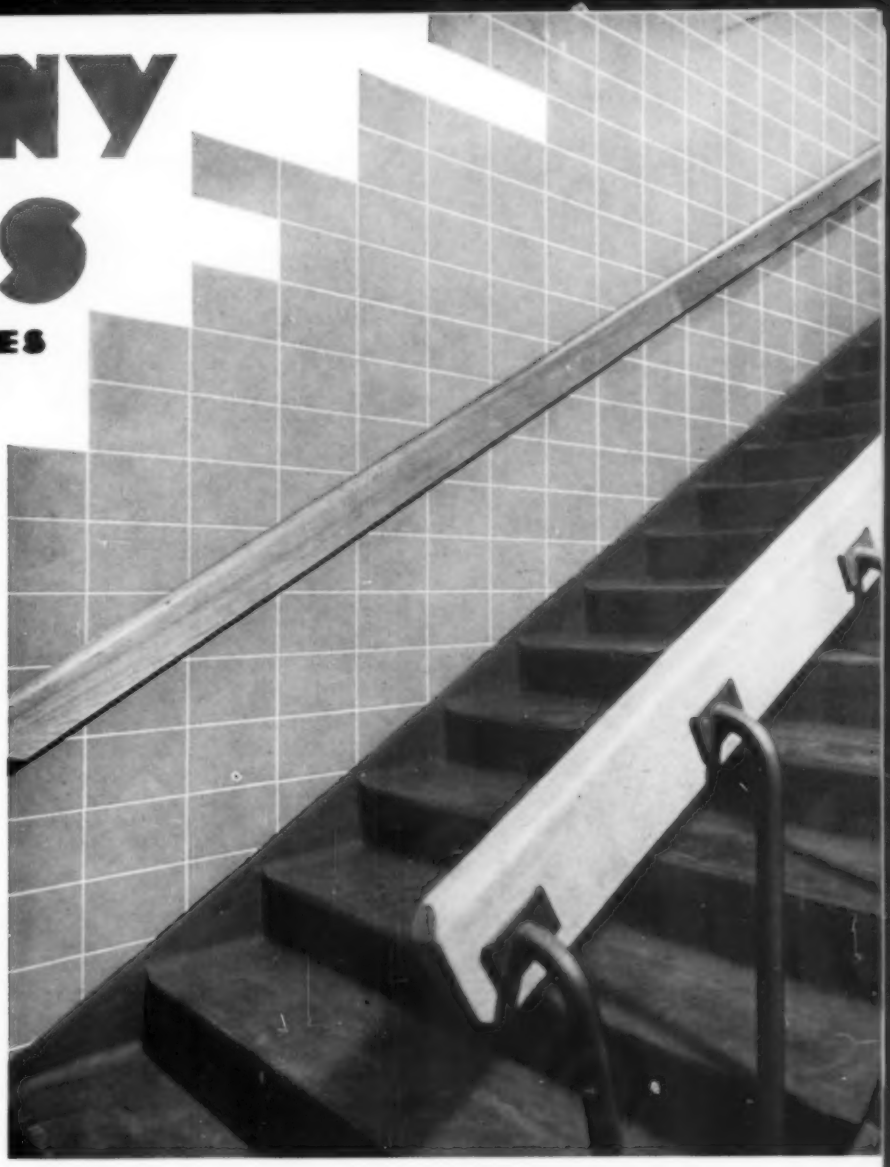
FRED W. SEGERSTROM, now General Sales Manager, General Products Division, L.O.F. GLASS FIBERS COMPANY, Toledo, Ohio.

JOHN V. HURFORD, recently appointed National Sales Manager, Building Products Division, CUTLER METAL PRODUCTS COMPANY, Camden, N.J.

HAROLD B. SMITH, new Sales Manager, Kansas City District, THE RUBEROID CO., New York, N.Y.

ROMANY TILES

ARE REAL TILES



Stairway in the North Field High School, North Field, Minnesota, Magney Tusler & Setter, Architects & Engineers, Minneapolis, Minnesota. This features new large size 6″ x 9″ wall tile in Clair DeLune Blue #725.

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To meet the expressed demand by architects for clay tile at larger scale, especially for long school corridors, ROMANY Tile is now available in 6″ x 9″ size. Complete range of the many ROMANY rugged glaze colors with suitable trim—all at comparable economic cost—either set in cement or adhesive. This large size will save installation time, save floor space and save money for the new school you may be planning.

Write for our "School Folder"

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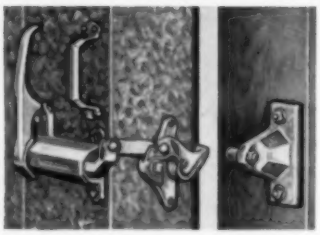
For The Finest Cold Storage Doors Specify JAMISON with these exclusive features



Exclusive JAMISON Hardware

- Rugged cast construction
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- Adjustable hinges and fastener assure tight seal during life of door
- Hot dip galvanized finish. Heavy coating of prime zinc gives maximum protection.

Exclusive JAMISON FROSTOP (optional feature)

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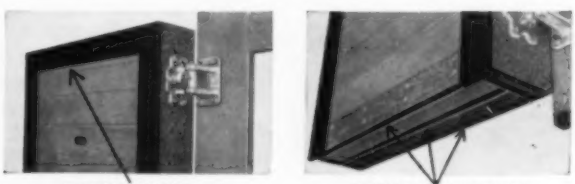

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TRIPLE SILLSEAL GASKET

Exclusive JAMISON Gasketing

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- Wide, flat seal
- Extends around sides and top
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"Sillseal"

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Full details on the Jamison Super Freezer Door are contained in Bulletin #5. Write for your copy to Jamison Cold Storage Door Co., Hagerstown, Md.

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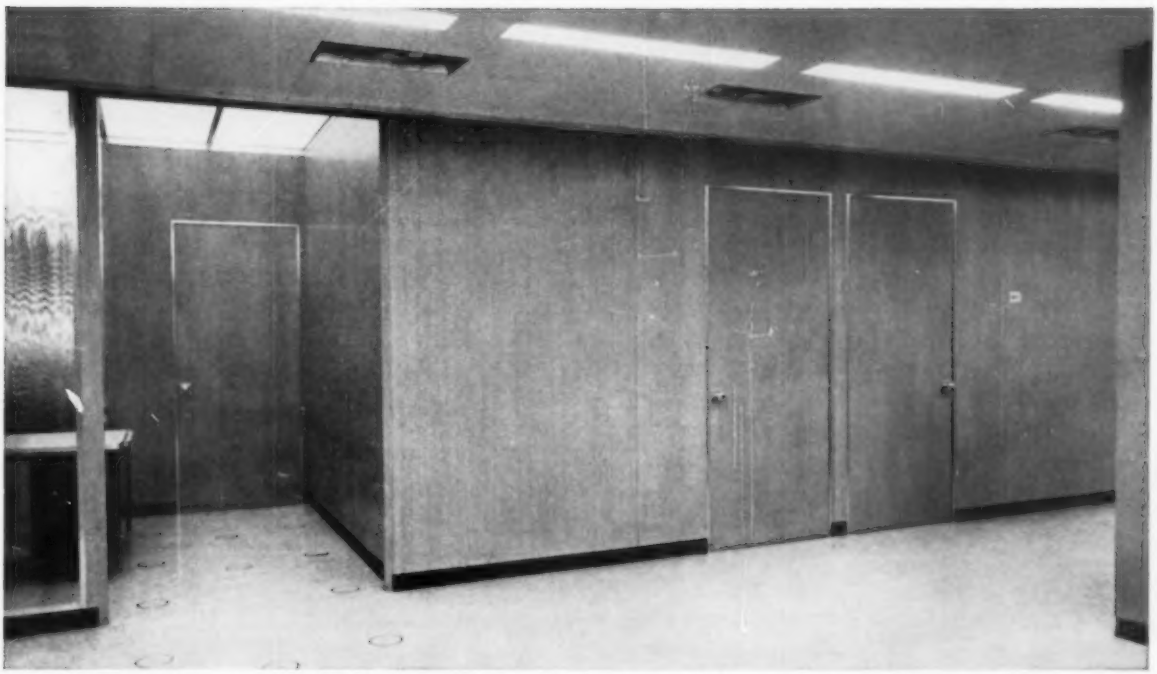
More JAMISON Doors are used by *more* people than any other Cold Storage Door in the world.



Weldwood Stay-Strate® Flush Doors—guaranteed for the life of the installation—match the panels in grain and color. Doors and panels have cores of Weldrok®—a mineral material that resists fire and heat . . . and reduces office noises.

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ARCHITECTS: SKIDMORE, OWINGS & MERRILL

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With Weldwood movable partitions, offices can be moved, expanded or rearranged *overnight* by regular maintenance crews. But that's not all. Weldwood partitions give offices the warmth, dignity, and beauty of fine wood. They create an atmosphere befitting America's business leaders.

Also, Weldwood Movable Partitions are easy to maintain. Occasional cleaning and waxing are the only maintenance needed. Paneling looks new indefinitely. For more information on Weldwood Partitions, send the coupon below.

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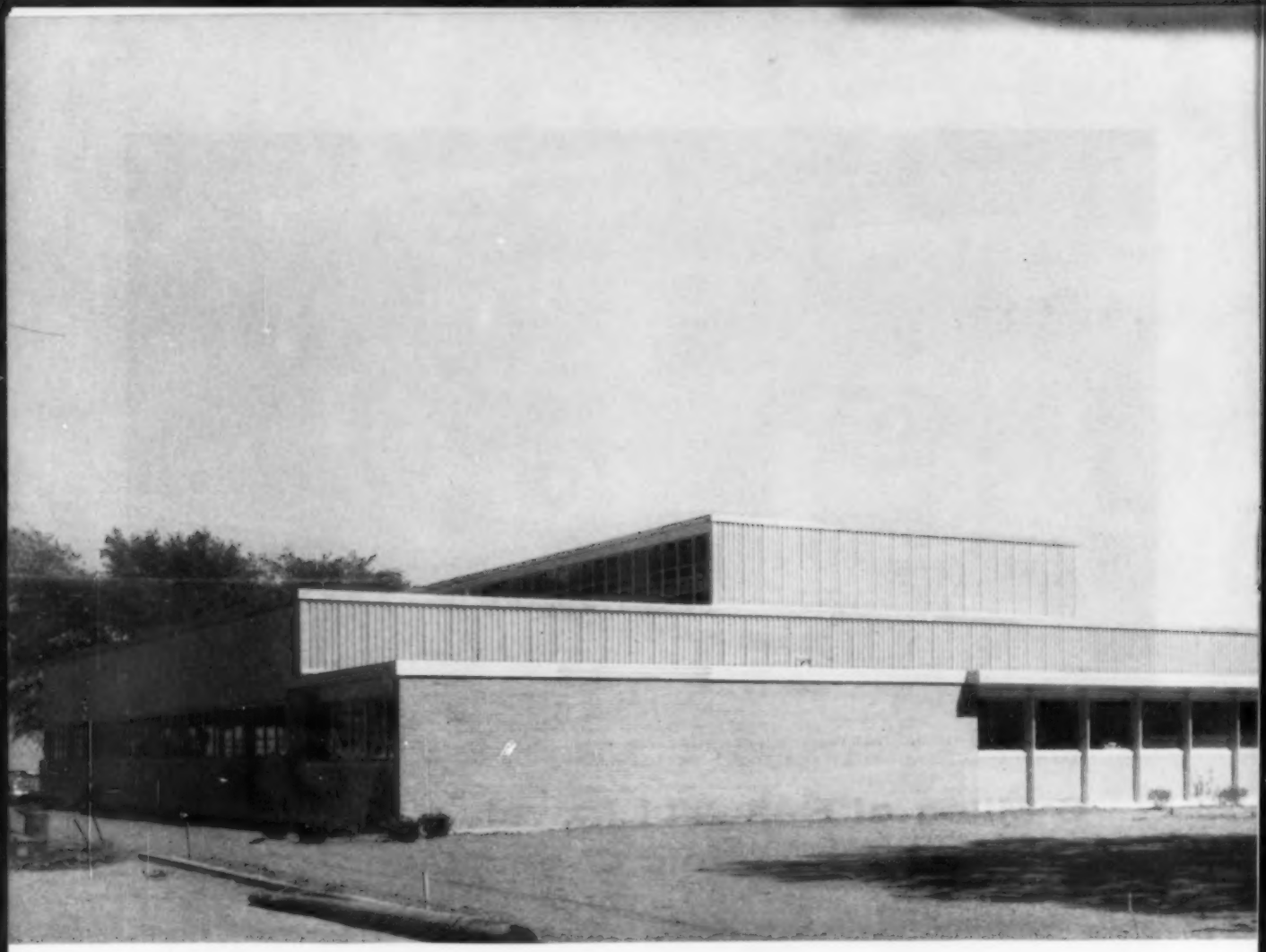
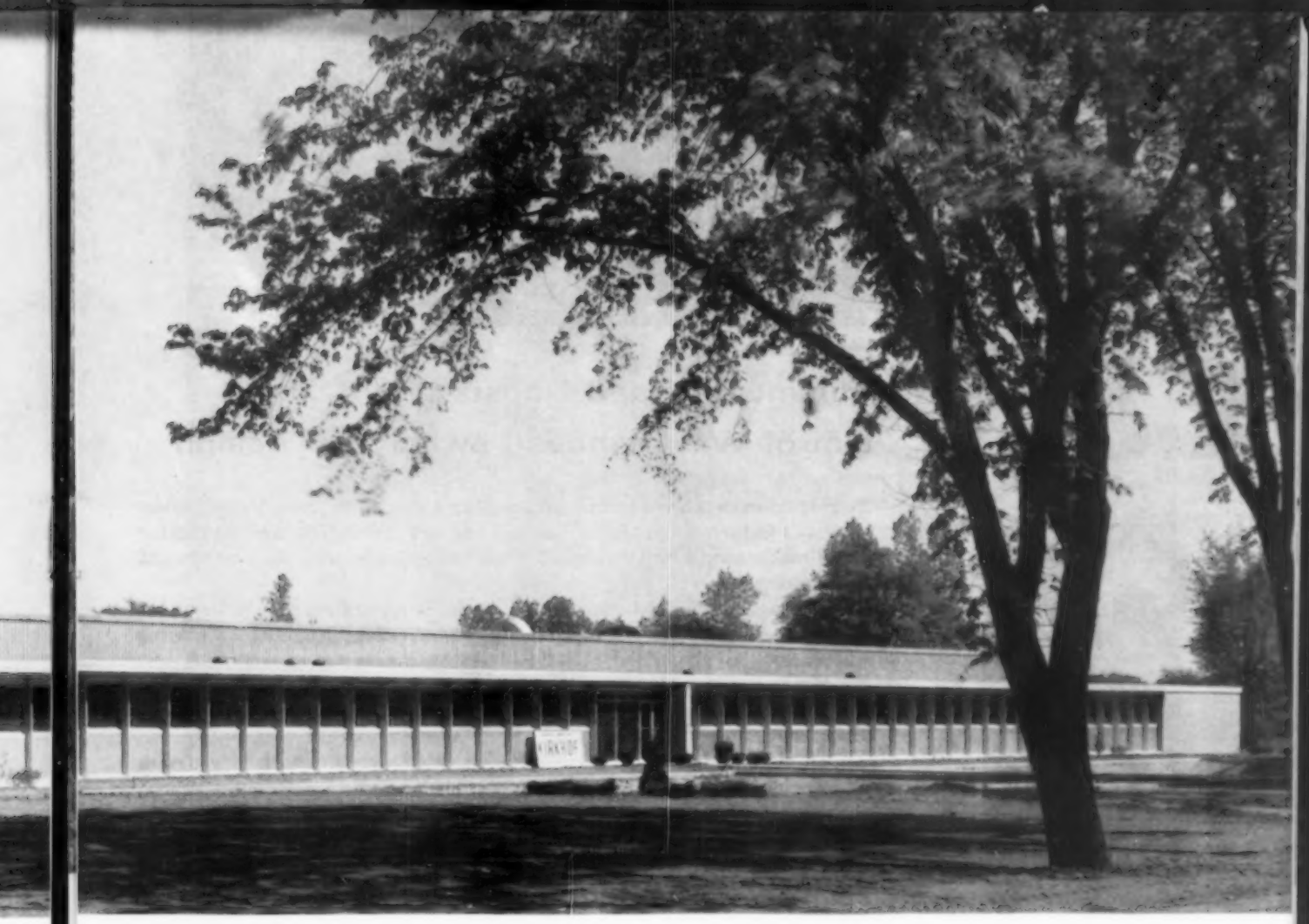


Above: Kirkhof Electric Manufacturing Company, Grand Rapids, Michigan.

J. & G. Daverman Company, architects Grand Rapids, Michigan

Left: Jim Witherspoon, Westinghouse Construction Sales Manager and Headquarters Member of the Complete Planning Service Team.



The electrical system story of today's factory

The beauty and function of today's factory are not confined to external appearance. Inside, behind the scenes of industrial activity, the electrical system and equipment have taken on a modern look.

Just as much operational efficiency is planned for the electrical system as is maintained in actual production work. To guide the planning and installation of that equipment, Westinghouse offers the aid of a Complete Planning Service team.

One call to the Westinghouse man in your area starts the operation. At your disposal from preliminary planning to job completion are the experience and know-how of the entire Westinghouse organization.

For anything electrical, you can be sure if it's Westinghouse. (*Continued next page.*)

DP-5023-A

WATCH WESTINGHOUSE!

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Be sure to take advantage of this consulting service during planning.

Minimum M and I costs* aim of Westinghouse switchgear design

Keeping down switchgear maintenance and inspection costs, two big profit eaters in today's factory, is the aim of Westinghouse switchgear. The drawout breaker design makes certain you accomplish these two activities with the least amount of down time.

This design, a Westinghouse first in the industry, enables you to draw out breakers horizontally whether they are high or low voltage. No lifting or lowering is necessary. (See photos, left.)

Safety to personnel handling these activities is assured with the Westinghouse design, too. Tested and proved features include full steel barriers to separate compartments, fully insulated buses and automatic interlocks.

Allow the Westinghouse switchgear specialist in your city to help you with your special projects. He's ready to help your planning whether on factory, school, commercial building or any other projects on the boards. And you can be sure if it's Westinghouse.

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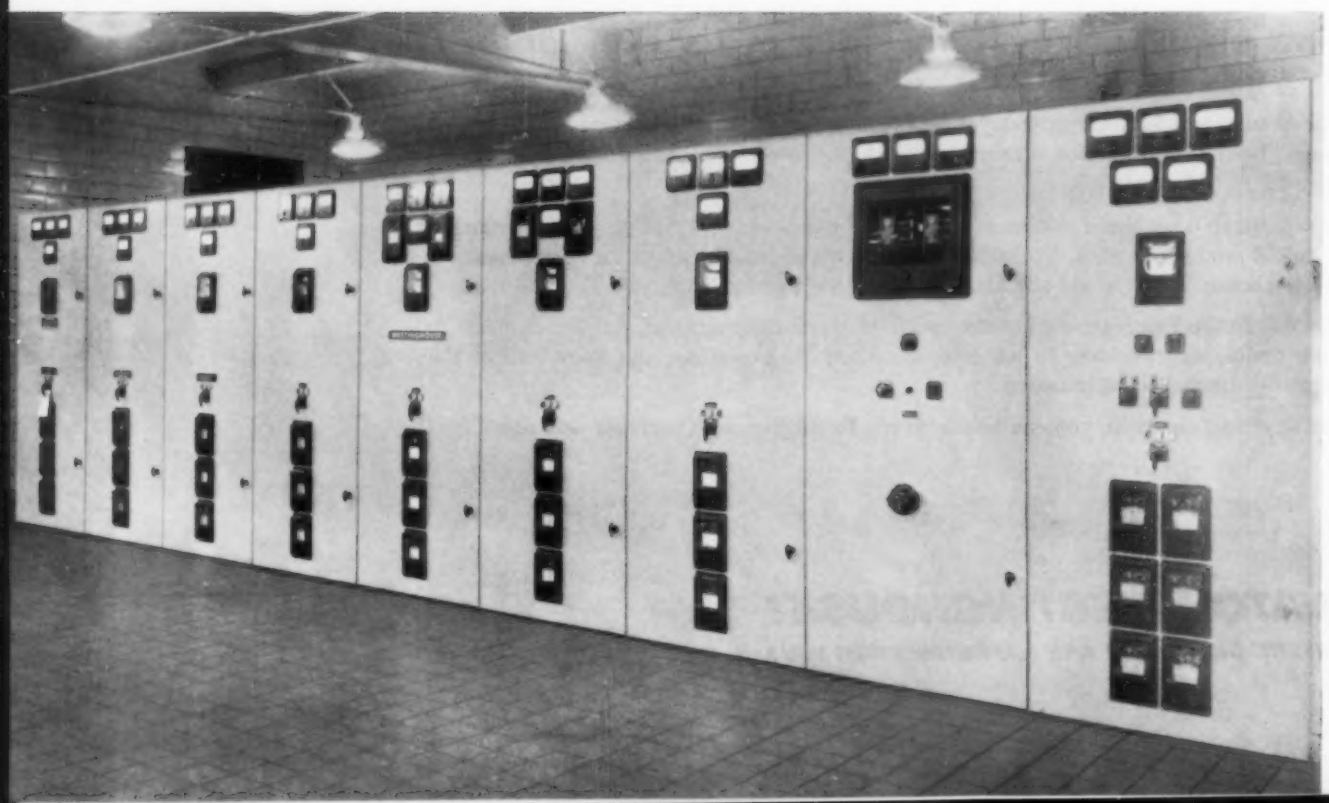
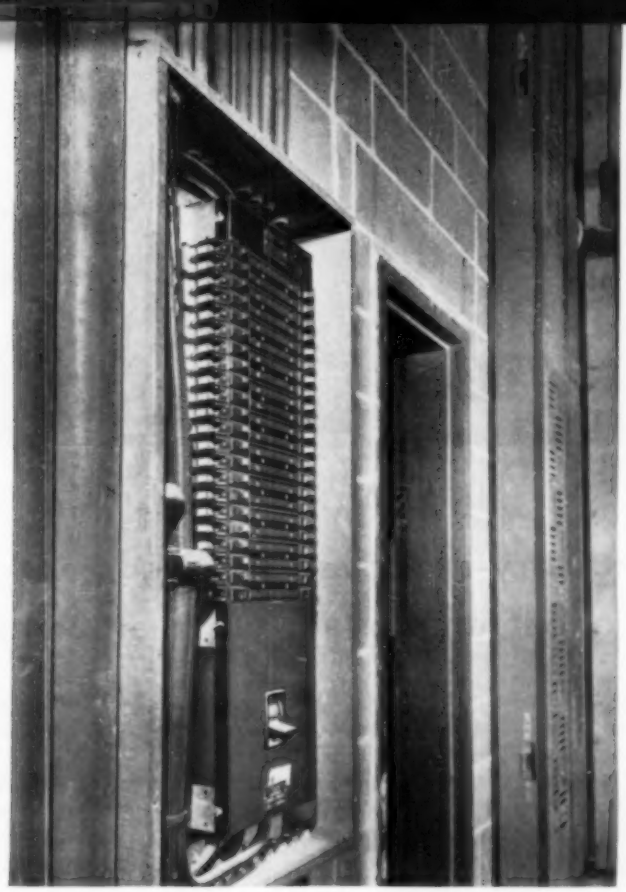
*Maintenance and inspection costs.





Westinghouse panelboards provide complete circuit protection

Distribution control points throughout factories can have the advantage of "De-ion®" circuit breakers when Westinghouse panelboards are specified. This protection is available for both lighting and power boards.

One investment is the final cost, too. There is nothing to replace, whether one interruption or a dozen. A flip of the breaker handle restores power when an outage happens. If trouble on the circuit is still present, the breakers continue to trip automatically until the trouble is corrected.

In addition, Westinghouse circuit breakers and panelboards—through coordinated design—provide easy installation and maintenance-free operation.

WATCH WESTINGHOUSE *WHERE* ***BIG*** *THINGS ARE HAPPENING FOR* ***YOU!***

Column-type panelboards designed for spacesavings and low-cost installation

Column-type panelboards are narrow, single-row construction designed primarily for mounting in H or I beams, where available wall space is limited. To take full advantage of this type of panelboard, the use of extension troughs and pull boxes is recommended.

Call on your Westinghouse panelboard sales engineer for design and planning assistance. Remember, you can be sure if it's Westinghouse.

DP-5023-C

WATCH the WESTINGHOUSE
sponsored convention telecasts
August 12, Democratic Convention—
August 19, Republican Convention.

From planning to project completion, Westinghouse experience is at your service.

Industry-approved fluorescents help boost employee, plant efficiency

Westinghouse fluorescent luminaires add extra light to your plant simply by making use of all the foot-candle output. And without any harsh, eye-fatiguing glare. The reason why is in the design.

Slotted reflectors turn 20% of the light upward, towards the ceiling, to bounce off it and other overhead objects before illuminating the work area below. This diffused, comfortable light combines with the direct 80% output to give an over-all increase in quality industrial lighting. Both men and machines benefit.

Fast installation methods prevail on a Westinghouse RLM job because they are light weight, easy to handle, and have completely wired channels. This helps to lower first costs considerably. Heavy-duty steel lamp holders keep maintenance and replacements down.

Notice proof of the extra light in the installation below. You can be sure if it's Westinghouse. DP-5023-D

An industrial must, aluminum bus duct now 15-25% cheaper

No other current-carrier offers as many advantages to user, installer and designer as aluminum bus duct. And now Westinghouse makes it available to your customers at 15-25% less than copper duct.

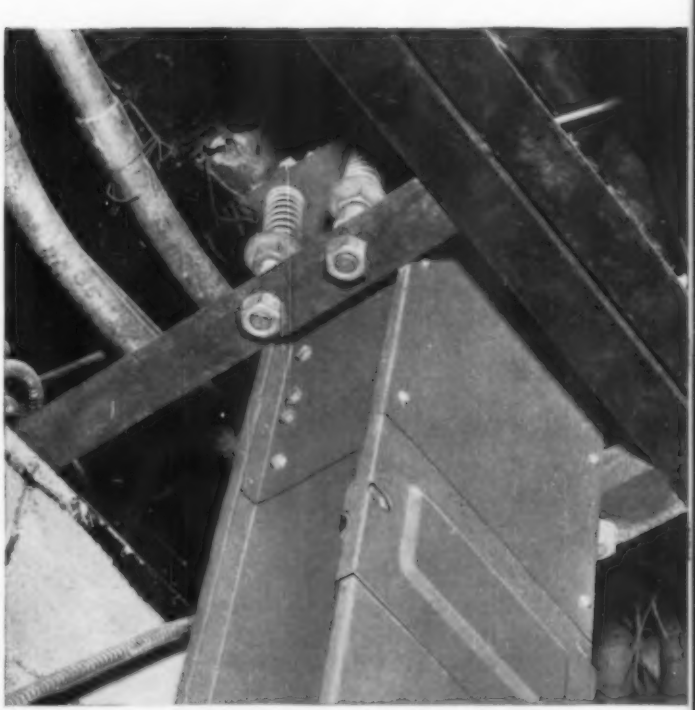
The same top quality and performance heretofore obtainable only with copper is guaranteed with Westinghouse aluminum duct. A new electrotype plating process protects aluminum from the dangers of high-resistance splices forever.

Being light weight (up to 35% less), Westinghouse duct handles well. Installs faster. Prefabricated in convenient sections it not only goes up quickly but allows complete design freedom. Angles, elbows, tees—almost any kind of shape—are standard.

Westinghouse can supply all the planning plus additional reasons why aluminum bus duct is the best distribution system material for you. Call today or write for booklet B-6740, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna.

Shown at right is the Westinghouse exclusive vertical mounting hanger which equalizes weight of duct among all supports, rather than concentrating the weight of the entire vertical riser on the bottom hanger.

DP-5023-E



WATCH WESTINGHOUSE!

WHERE BIG THINGS ARE HAPPENING FOR YOU!

WATCH the WESTINGHOUSE sponsored convention telecasts August 12, Democratic Convention— August 19, Republican Convention.

Westinghouse Complete Planning Service Team is ready to go to work with you on your next project. Call them in at once.

Look at the evidence!

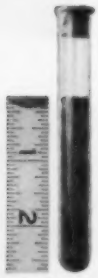
FERALUN®

SAFETY TREADS

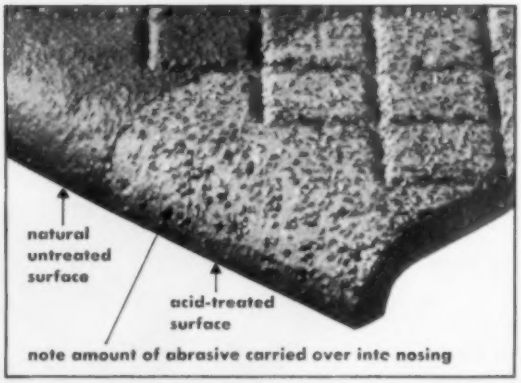
rated tops in two tests

"test-tube" test | acid-treated surface test

FERALUN SAFETY TREAD



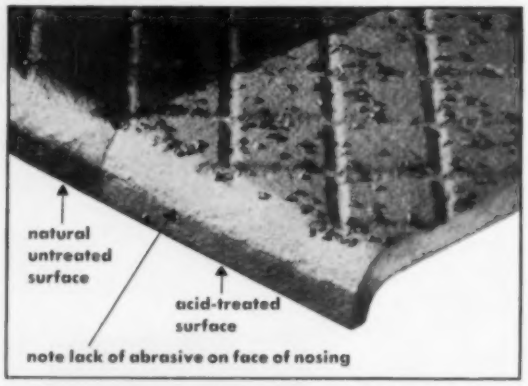
This is the amount of abrasive in a 6" x 6" section of a Feralun Safety Tread.



Here is an unretouched photograph of a Feralun tread taken after the paint was removed from a portion of it and acid used to eat away the metal base so as to fully expose the actual abrasive content. *Note the full and even distribution of abrasive carried right over into the nosing.*

COMPETITIVE SAFETY TREAD

This is the amount of abrasive in a 6" x 6" section of an "abrasive tread" offered as a substitute for Feralun.



Here is an unretouched photograph of an abrasive tread, purchased on the open market, of a type sometimes offered as an equal to Feralun. It has had identical treatment as Feralun tread above. *Compare the meager amount of abrasive and its spotty distribution with that of Feralun.*

Feralun is available as treads, thresholds, floor plates and elevator sills. Also in Bronzalun, Alumalun and Nicalun. See Sweet's Catalog 1956—13b/Am.

AB 131

AMERICAN ABRASIVE METALS CO., IRVINGTON 11, N. J.

p/a views

(Continued from page 14)

Recently, I spoke to a group of apprentices and have spelled out these responsibilities for each group and how they involve each participant in the building of a structure.

RAYMOND A. FISHER
Pittsburgh, Pa.

•

Dear Editor: The article by Rosen is effectively written and appears to contain valuable conclusions based on a careful review of testimony. If such articles can serve the purpose of providing a reliable summary of up-to-date specialist opinion on technical matters, they will be very much appreciated by specifications writers.

LAWRENCE B. ANDERSON
Massachusetts Institute of Technology
Cambridge, Mass.

•

Dear Editor: I have had the opportunity to read your article by Harold J. Rosen and find it to be exceptionally complete and well written. This is the type of information that most specification writers are seeking and I believe will be of great value to them.

The article on Masonry Walls is apparently written by a man who is currently in practice in the eastern portion of the Unted States. As you are undoubtedly aware, most of the brick masonry construction in California and the western states is of the reinforced grout masonry type and involves somewhat different problems from those encountered in the use of face brick. Generally, the brick used in this area is a grade MW common brick of the modular type 3¼x3¼x10 which, as you know, has a higher water absorption factor than a glazed face brick. I believe that articles by western writers would be greatly appreciated in this area.

R. REDMOND COGHLAN, JR.
Southern California Chapter
The Construction Specifications Institute
Los Angeles, California

(Continued on page 220)

new dimension...

in fixture value with THE *new* SMITHCRAFT FINISH

Smithcraft now adds a new dimension in fixture perfection. The new Smithcraft painting process consists of the finest and most modern Bonderite and Baked Enamel Finish combination in use in the lighting industry today.

In addition to its superior appearance, the new Smithcraft finish has these outstanding qualities:

Adheres firmly to metal — Stays white indefinitely, without yellowing — Provides positive resistance to chemicals and heat — Resists abrasion because of optimum hardness — Reflects a maximum percentage of light

Because the new Smithcraft finish possesses all these attributes to a greater degree than ordinary finishes, it produces many important new benefits for owners and users of lighting . . . better appearance, better lighting qualities, easier maintenance and longer, trouble-free life.

All the units in the complete and diversified line of Smithcraft commercial and industrial fixtures are now finished with this new process. Typical is the Sheraton (shown above) . . . a trim, modern unit, only 3¼" deep; the Sheraton is ideal for low-ceiling applications. It is available for two and four-lamps in 4-ft. and 8-ft. lengths. Plan to use the Sheraton in your next school, store or office design.

Ask us to send you the current Smithcraft catalog . . . it is a compilation of the newest and most functional fluorescent fixtures in use today.

Smithcraft
LIGHTING
CHELSEA 50, MASSACHUSETTS

America's finest fluorescent lighting

2,000 HOMES

in

Kingston Estates

are being equipped with

AllianceWare®

Planned as a community of over 2,000 moderately-priced homes, Kingston Estates is now under construction in South Jersey. The developers offer five designs to provide a home to meet the needs of every family.

Over 500 homes have been occupied, with 150 now under construction. Featured in the homes are ample living areas, a powder room, 3 or 4 bedrooms and two ceramic tile baths. Smaller homes have one bath and powder room.

All sanitary ware fixtures are AllianceWare—porcelain-on-steel. Bathroom fixtures are in color—powder room fixtures in white.

For high quality at reasonable cost . . . for modern design in a wide choice of color and white . . . for lifetime beauty of stainproof enamel . . . and for bathtub units in recess, corner, or "junior" small space sizes, an increasing number of architects and builders choose AllianceWare. If you are not familiar with all advantages of AllianceWare, write for complete catalog.

ALLIANCEWARE, INC. • Alliance, Ohio

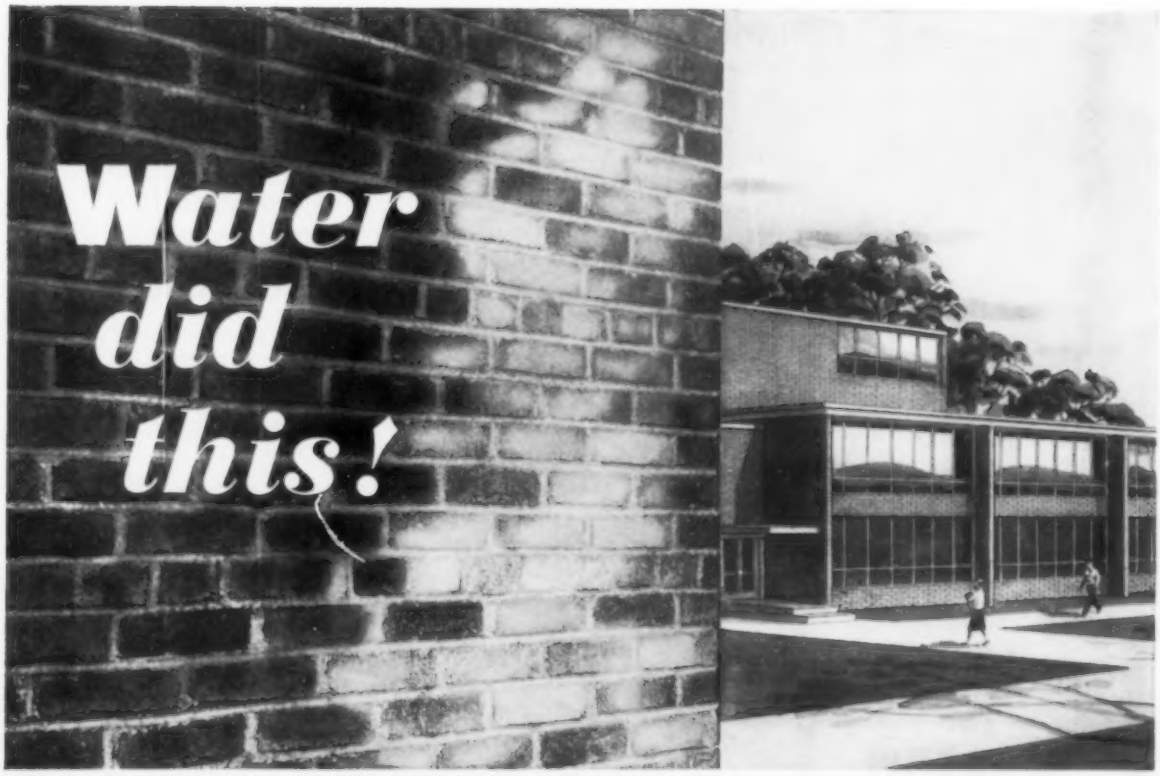
Bathtubs • Lavatories • Sinks • Closets

Plants in Alliance, Ohio; Colton, California; Kilgore, Texas

Kingston Estates • Delaware Township, Haddonfield, N. J.

Builder: Goodwin Housing Corp.
Plumbing Contractor: Harry Dobkin & Sons
AllianceWare furnished by J. Levitt, Inc.

AllianceWare
PORCELAIN ON STEEL



PRESERVE MASONRY BEAUTY

with durable G-E SILICONE *"defense in depth"*

This is efflorescence—unsightly white stains that come from water dissolving the salts in masonry. You can check it—through durable *silicones*. A simple, inexpensive treatment of above-grade masonry, with water repellents containing General Electric DRI-FILM® silicones, preserves masonry beauty—checks efflorescence—retards spalling and cracking. Your masonry stays cleaner, too, for water can't carry dirt or stains into the pores. And, of course, a water-repelling *exterior* means a dry *interior*.

PROVIDES *"defense in depth"*

A water-repellent treatment with General Electric DRI-FILM silicones is the *most durable known*—because it provides "defense in depth." Silicones actually *penetrate masonry pores*—get deep inside—where they cannot be eroded away. *Durable* DRI-FILM silicone protection *lasts for years!*

Why not ask your supplier of water repellents about *silicone* protection for *your* masonry? For the names of suppliers using G-E DRI-FILM in their products, just write to:

Silicone Products Department
General Electric Company
Section 164-2A, Waterford, New York
(IN CANADA, write to Canadian General Electric Company, Ltd., Toronto.)

Paint and Chemical Manufacturers!

General Electric DRI-FILM silicones offer you a profitable opportunity to add a superior masonry water repellent to your product line. Ask us about them!

See your "Sweet's Industrial Construction & Architectural File" (9/Ge) for details!

Progress Is Our Most Important Product

GENERAL ELECTRIC

Letter Boxes for MODERN INTERIORS

You can complement the most modern decor with the rich, distinctive designs of CORBIN Letter Boxes. What's more, you can be sure that they will provide the ultimate in security and user convenience.

Every CORBIN Letter Box gives you the same solid construction that qualifies it for post-office use. And, each box can be "convenience-keyed" so that one key opens entrance door, box, and apartment or office.

CORBIN Letter Boxes are available as Key, Latch or Dial types; in complete, assembled sections, ready for service. Specify them for modern appearance and efficiency in all commercial, apartment, or institutional buildings. For complete details and installation data, write for Catalog WP 25.

CORBIN®

CORBIN Wood Products Division, PJ
The American Hardware Corporation
Hornell, New York

Please send me Catalog WP 25

Name _____

Firm _____

City _____ State _____

p/a views

(Continued from page 216)

Dear Editor: I wish to comment briefly on "Masonry Walls" as follows:

(a). The series should definitely be of much interest and usefulness to readers. I know the first article was of interest to me and several of my office associates.

(b). The articles should not become lengthy but preferably held to a single-page size.

(c). The articles should be set up in a manner for ready removal and filing.

(d). Author of articles should be designated as a member of The Construction Specifications Institute, where such is the case.

D. JOSEPH HUNT
Denver, Colo.

•

Dear Editor: Rosen's suggested procedures leading to tight masonry walls, I consider quite sound; probably because they so nearly parallel the many specifications I wrote for both initial construction and repair work prior to my retirement last August, from Office of the Chief of Engineers.

Every building, regardless of its size or intended use, rates (to my mind) a proper specification. However, we know in advance that successful building, in this case a tight wall, depends to a large extent on the integrity of the contractor, who through his foreman should give close attention to the installation actions of his subordinate bricklayers.

While I may appear to emphasize supervision, I do not want to detract from the first need of a definite specification. Discussions which you propose will always be of benefit, especially to the individual specification writer and those CSI committees already formed or those proposed for the study of standardized installation specifications.

Inasmuch as PROGRESSIVE ARCHITECTURE (ex-*Pencil Points*) and The

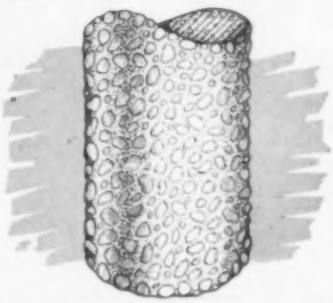
(Continued on page 224)

FORMING FACTS for ARCHITECTS

• • •

Striking Concrete Column Surfaces Produced by New Method

Surface of round concrete columns can be finished in many new effects when low cost SONOTUBE Fibre Forms are used.



For example, a contractor in the southwest recently applied a glucose base material to the inside of a SONOTUBE to prevent the concrete from setting up in the outside 1/4" of the column. After stripping the paper form, the unset cement was brushed off to expose beautiful multi-colored aggregate.

This technique of killing the set to expose the aggregate also provides an excellent bonding surface for plaster, stone, tile and terrazzo. Specify SONOTUBES on your next work. SONOTUBES are supplied in sizes from 2" to 36" I.D. up to 50' long.

Readily available through distributors in the U. S., Canada and Mexico.

Technical Data Available

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Help your clients to run top quality kitchens

. . . at *rock-bottom cost!*

Write for your copy

"STAINLESS STEEL for STORE FRONTS and BUILDING ENTRANCES"

Either for modernization or new construction, this 40-page booklet contains many ideas on handsome treatments for you. (Note: A new booklet on "AL Stainless in Food Preparation and Serving Equipment" is in process—write for one of the first copies when available.)

ADDRESS DEPT. PA-82

Sure, the owners will need a good chef and good management in their kitchen and dining-rooms—but first of all, they'll need stainless steel equipment! That's where to start for the highest sanitary standards—the easiest, quickest cleaning and lowest-cost maintenance. And that's where to start for the greatest long-term economy, too—because stainless steel can't chip, crack, peel or wear off. It costs a building owner much less than anything else in the long run because it literally lasts for a lifetime . . . stands up under the heaviest service and stays beautiful all the way. ● In the kitchen, in the dining-room (and for structural details, too) specify *stainless steel* . . . it pays! ***Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.***

WSW 6070 B

Make it BETTER-and LONGER LASTING-with

AL Stainless Steel

Warehouse stocks carried by all Ryerson Steel plants

AL ALLEGHENY LUDLUM

America's outstanding homes

The residence of Smith L. Rose, in Houston, Texas. Mr. Rose designed his home around Carrier air conditioning. He has placed picture windows in every room except the baths.

are air conditioned by Carrier

Weathermaker Homes are outstanding in design, appearance and comfort.

And wherever they're built, from Texas to Maine, these homes have this in common: their architects and builders did not cut corners. They wanted air conditioning that was expertly installed, that would perform unfailingly and would deliver guaranteed comfort year after year. They chose Carrier.

What can Carrier do for you?

The Weathermaker* Home offers prospects a known and trusted name. Carrier performance and Carrier national advertising build this preference for Weathermaker Homes. Buyers get a value they'll recognize, and a home they can buy with confidence. That's good business.

Prosper with Carrier—the first name in air conditioning. Carrier Corporation, Syracuse, New York. *Reg. U. S. Pat. Off.

Carrier air conditioning permits the use of floor-to-ceiling fixed sash windows for generous view and also to heighten spaciousness of the interior.

All bedrooms have full-length windows that look out on private backyard patio. A 3-ton Year-round Weathermaker air conditioner is shown on the left.

Weathermaker Comfort Center regulates both winter heating and summer cooling.

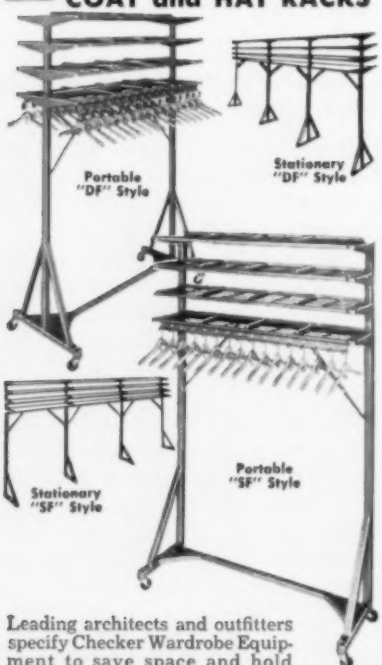
The Rose living room. Entire house is built around this room which opens into every other room and to the patio. Where the view is less desirable, storage walls are used.

Natural light for interior rooms is brought in through several "sky domes" located in the roof.

Carrier

MORE NEW HOMES ARE AIR CONDITIONED BY CARRIER WEATHERMAKERS THAN BY ANY OTHER MAKE

Checker®
COAT and HAT RACKS



Leading architects and outfitters specify Checker Wardrobe Equipment to save space and hold wraps in an efficient, sanitary and orderly manner. Hats rest on high ribbed, slotted shelves. Spaced hangers keep coats apart, open to light and air, visible and instantly available. SF Style units accommodate 4 or 5 persons per foot. DF style units accommodate 8 or 10. 3'2", 4'2" and 5'2" long "portable" units go wherever needed on large casters. "Stationary" units come on glides and can be anchored to floor. "WM" Style racks mount directly on any wall. All Checker racks are correctly engineered to interlock on left or right and to stand up under a full load. They will not tip over, sag, sway, creak or wobble. Built for lifetime service of strongly welded heavy gauge steel and square tubing and beautifully finished in modern baked on colors. They are vermin-proof and fireproof.

Style WM wall RACKS

Exclusive Checker Features

1. Beautiful lucite numbers snap-on each hat space
2. Add-on shelves spring lock either to right or left
3. Tags now go on hanger hooks
4. Any Checker quickly converted from hanger to hook type of reverse

Write for Bulletin CK-510

VOGEL-PETERSON CO.
1127 W. 37th Street • Chicago 9, Ill.

p/a views

(Continued from page 220)

Construction Specifications Institute are equally interested in materials and their installation in buildings, it is thought that considerable benefit would accrue to both if your page SPECIFICATIONS CLINIC could be made a matter of regular monthly issue.

FRANKLYN E. WARNER
Secretary-Treasurer
District of Columbia Metropolitan Chapter
The Construction Specifications Institute
Washington, D. C.

•

Dear Editor: The Masonry article was pointed and gave fresh technical recommendation. I was impressed by this directness. Quite a difference from the normal publication of this type which frequently seems aimed at an entire study course in a given subject rather than the dissemination of easily understood technical data.

I believe that in a publication like yours, with its many forms of reader interests, the lengthy research articles are not effective.

The professional wants and needs this type of information, but I question the practicality of searching through our monthly architectural journals for it. However, your approach of a brief, concisely written clinic on materials and methods would seem to be of great value to the profession and your readers, if for no other reason than it will be read in this form and therefore effect large distribution.

J. R. LISKE, President
Northern California Chapter
The Construction Specifications Institute

•

Dear Editor: I read with interest the article by Harold J. Rosen, and wish to express my gratitude for a practical approach to the question of specifications and their interrelation to everyday construction. It is good

(Continued on page 230)

it's that simple!

Draftsmen want to use STANPAT in place of the old-fashioned time-consuming method of re-drawing and re-lettering specification and revision boxes, standard symbols, sub-assemblies, components, and cross sections.

STANPAT reprints your standard drawing details on acetate sheets with adhesive on front or back. Guaranteed not to dry out, come off, or wrinkle. Reproductions come crisp and clear. Save drafting time and money; use STANPAT whenever drawing details re-appear on your tracings.

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right for schools . . .

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Everything about Structural Clay Facing Tile makes it architecturally right for hard-working school interiors—

Economical Cost—made possible by building both structural wall and interior finish with this single, burned clay material.

Long-Term Maintenance Savings—assured because years of use have proved that Facing Tile can take school abuse, never needs periodic painting or other costly upkeep.

Cleanliness and Color—built-in with a ceramic glazed surface that resists soiling, is easily cleaned, and offers a range of colors specifically designed for school needs.

***Complete Specification Data** on Facing Tile is available free if you write the Facing Tile Institute.*

St. Mary Gate of Heaven School, Ozone Park, N. Y., W. J. Bogel, Architect

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1520 18th Street, N. W., Washington 6, D. C.

In the interest of better Facing Tile construction the companies listed here have contributed to the preparation of this advertisement.

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when a new idea strikes..

it can release the imagination into new worlds of achievement. In *curtain wall construction,* Texlite's new Integrated Wall System has released the imagination of designers by opening up new horizons in color, texture and design. This tradition-breaking wall framing system puts into dramatic reality designs heretofore only *dreamed* about. It is America's most complete curtain wall system . . designed, engineered, fabricated and erected by Texlite — undivided responsibility. Send for illustrated brochure.

See our catalog in Sweet's.

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INTEGRATED WALL SYSTEM

ARCHITECTURAL PRODUCTS DIVISION

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Established 1879

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How many eyes has this door opened?

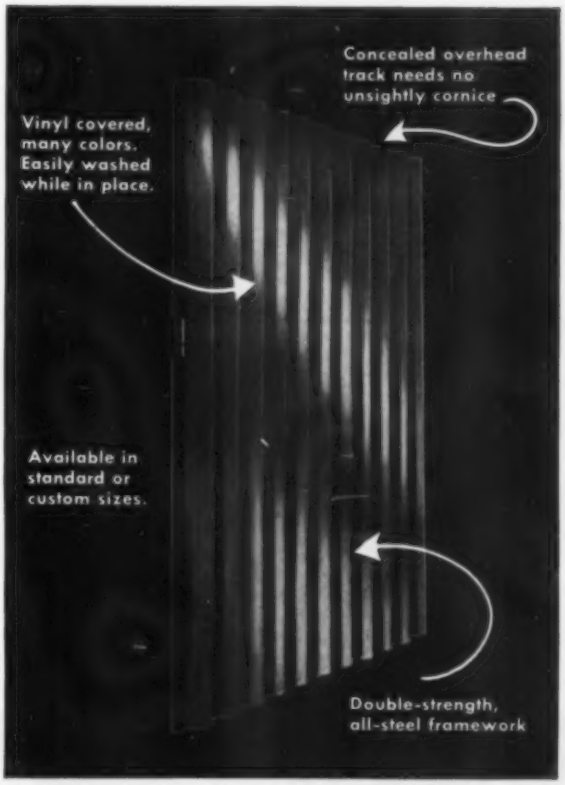
New Concepts of Design Unfold to Architects Using Space-saving MODERNFOLD DOORS

Surprising...really surprising how much a folding door can contribute to imaginative design...that door is MODERNFOLD.

Every inch becomes more active, and you are freed of needless design restrictions caused by old-fashioned hinged doors.

Foremost among manufacturers of folding doors is MODERNFOLD. Among your friends in the profession, you will be certain to find many who have used MODERNFOLD in residential, commercial and institutional installations. They will surely vouch for MODERNFOLD'S beauty, utility and longevity.

Or if you want the full story, why not call your nearest MODERNFOLD distributor? You and he together will no doubt discover many unique applications for these folding doors.


Concealed overhead track needs no unsightly cornice
Vinyl covered, many colors. Easily washed while in place.
Available in standard or custom sizes.
Double-strength, all-steel framework

Superior construction features account for MODERNFOLD'S leadership.

modernfold doors have no equal

MODERNFOLD distributors are listed under "Doors" in city classified telephone directories.

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Please send me full information on MODERNFOLD Doors.

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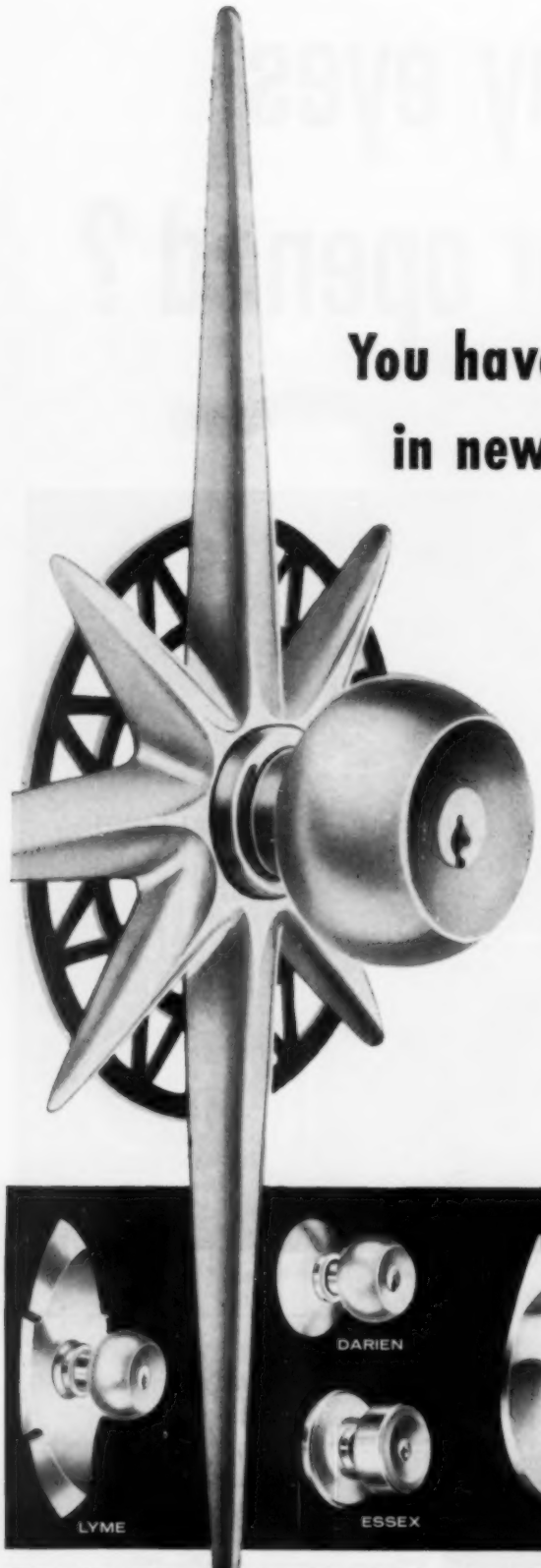
NEW CASTLE PRODUCTS, INC., New Castle, Indiana • *In Canada:* New Castle Products, Ltd., Montreal 23 • *In Germany:* New Castle Products, GMBH, Stuttgart

You have so much more to offer in new Sargent SENTRYLOCKS!



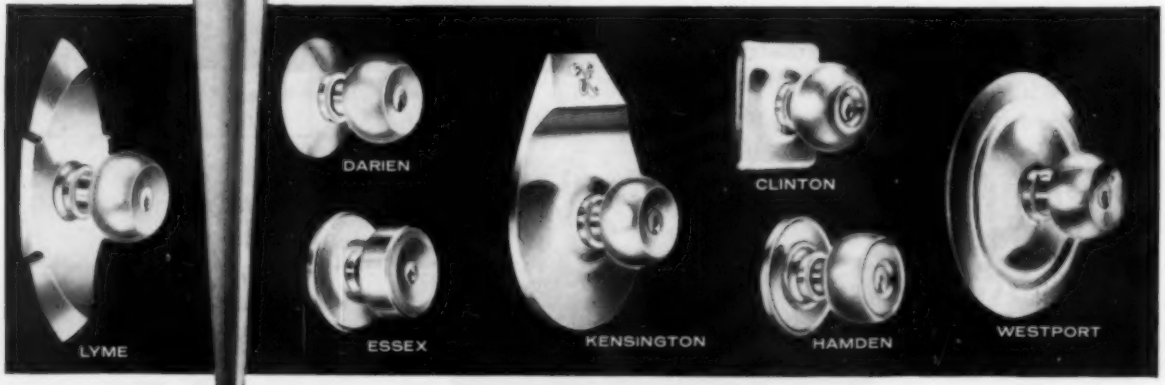
. . . more design possibilities than you ever imagined! A thoroughly satisfied client with every specification!

. . . 19 lock functions! 5 beautiful finishes! 7 new features that simplify installation!

The new Sentries conform to Federal Spec. FFH 106A, Type 160 for bored lock and latch sets.

Ask your Sargent Representative to show you this great new Sargent line. Or write direct to Sargent & Company, New Haven 9, Connecticut, Dept. 15K.

SARGENT of New Haven



SARGENT LOCKS ... *"Sign of a well built house"*

UNIFORM LENGTHS OF YOUNGSTOWN PIPE

make your job easier, quicker

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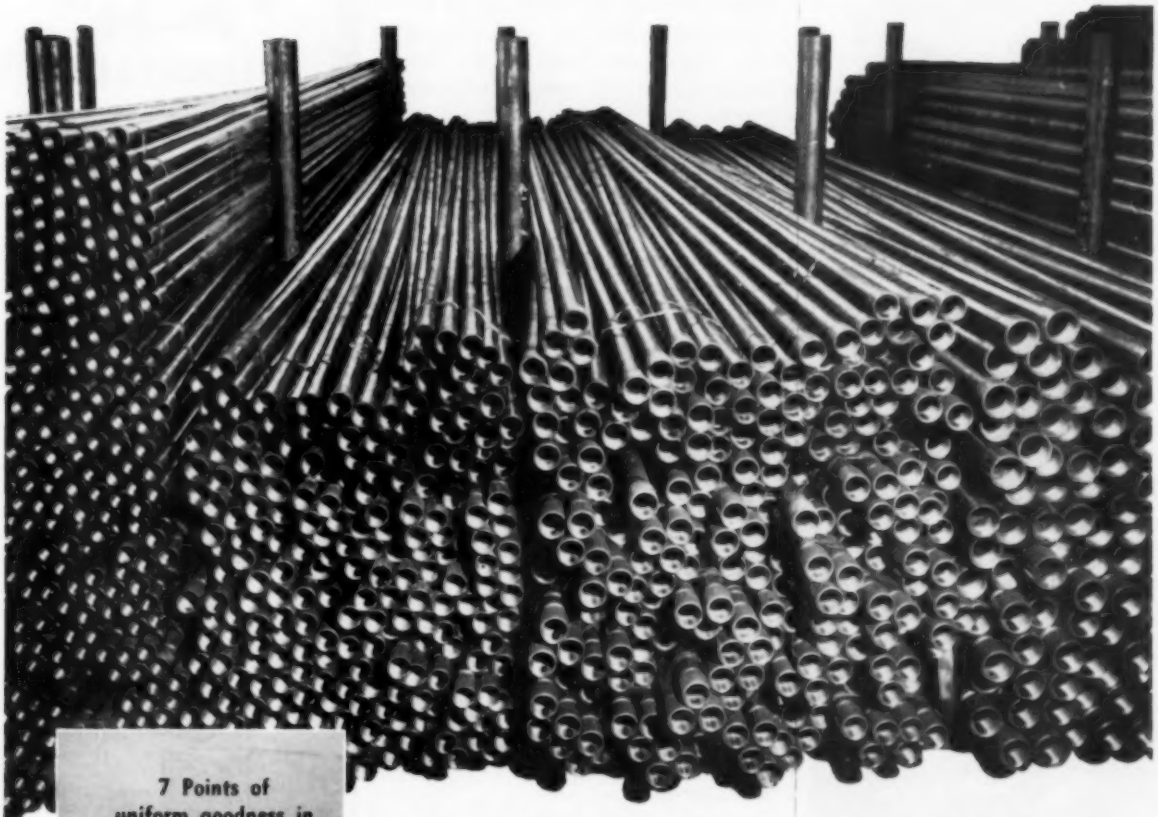

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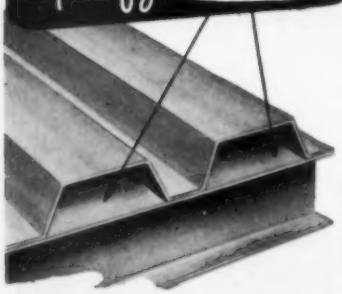

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p/a views

(Continued from page 224)

to ventilate questions which require an insight in the ever-changing aspects of construction; new approaches, such as required bonds; new materials, their approval by the Government agencies, etc. I found the article extremely informative and trust that this subject will be a regular feature in P/A.

JOHN H. GRAHAM
John H. Graham & Associates
Philadelphia, Pa.

•

Dear Editor: The article, "Masonry Walls: Specifications Clinic," is definitely the type of information of value to architects, engineers, and construction specification writers. Articles of this type are helpful in bringing together pertinent information on a given subject which might normally require considerable amount of research by the conscientious specification writer.

GLEN H. ABPLANALP, President
Metropolitan New York Chapter
The Construction Specifications Institute

•

Dear Editor: There have been many articles that have impressed me, but I have not taken the time to express my appreciation.

Features like SPECIFICATIONS CLINIC are short enough for a quick reading and full of pertinent information to warrant a possible rereading or filing in an active folder, where they can be referred to each time Masonry Specifications are reviewed.

DAVID A. PIERCE, Technical Editor
Ohio Architect
Columbus, Ohio

•

Dear Editor: Referring to your technical articles, and treating the subject in the definite and factual manner of the one on Masonry Walls, will always command immediate and interested attention in the specification and supervisory departments of architects' offices. It is to be hoped

(Continued on page 242)

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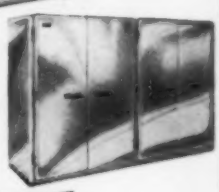

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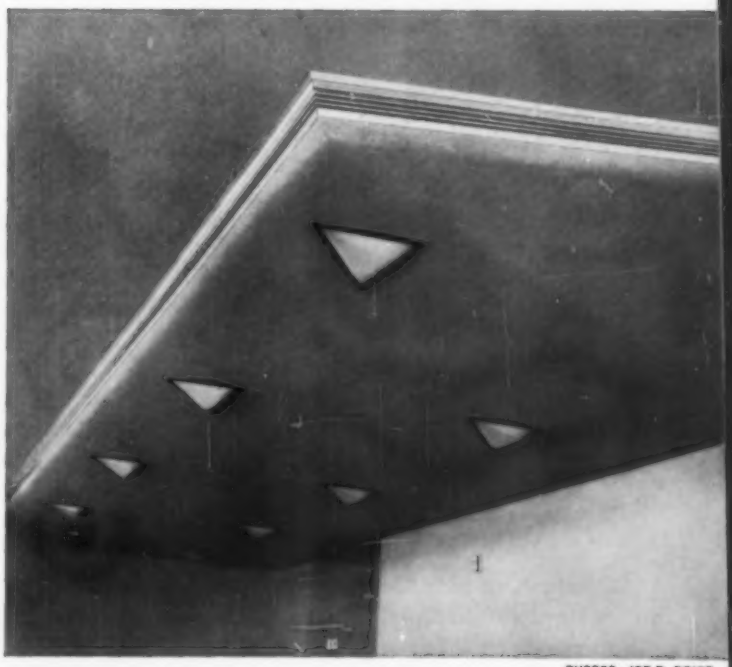

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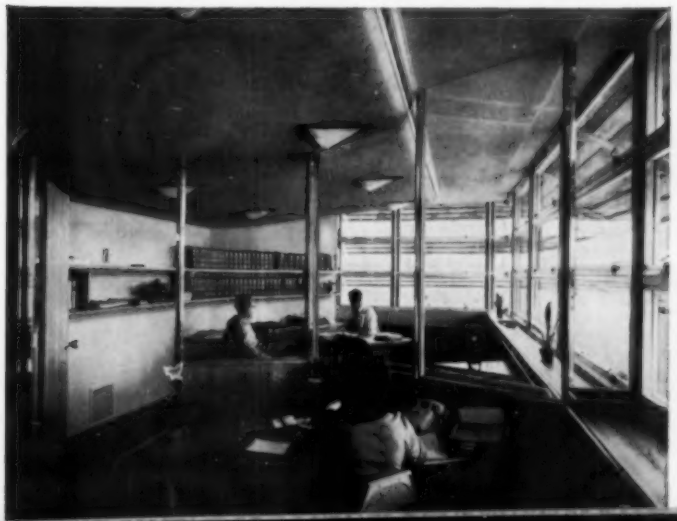

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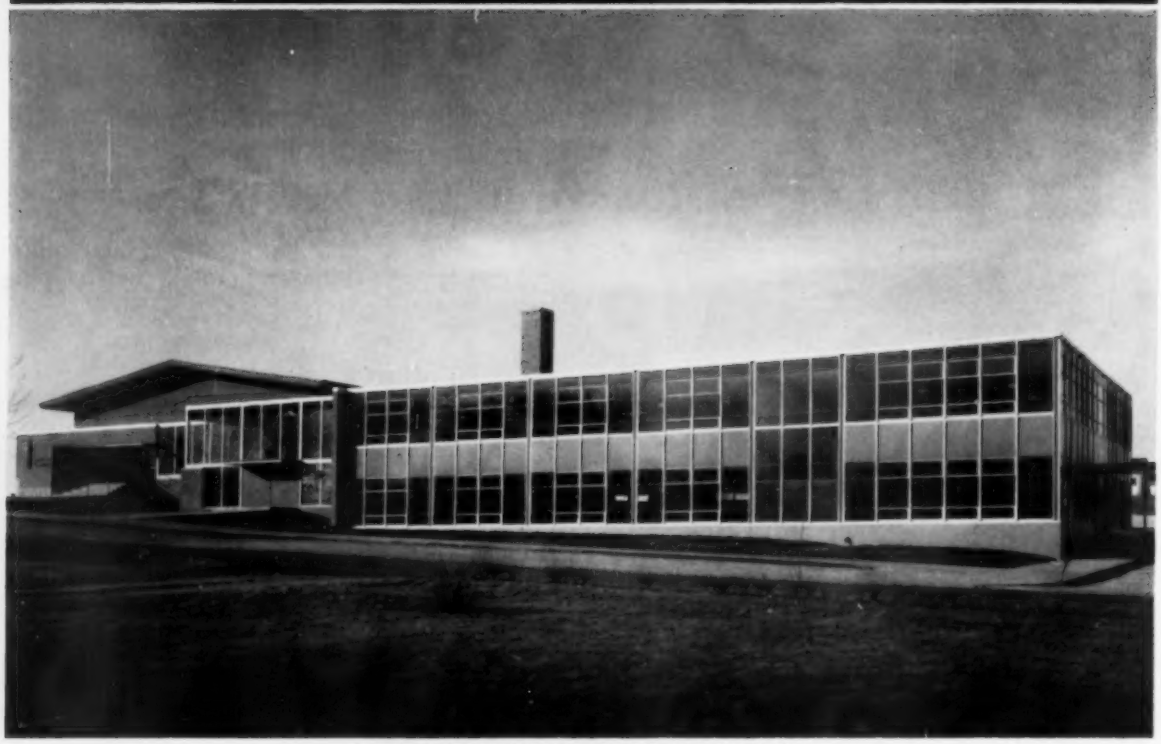

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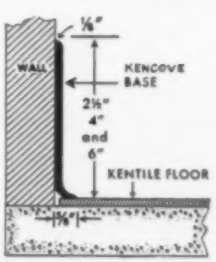

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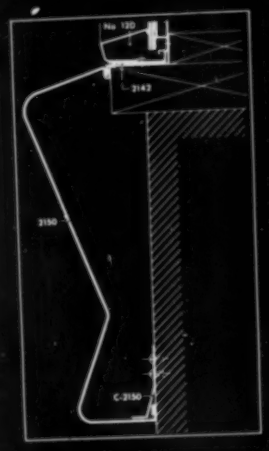

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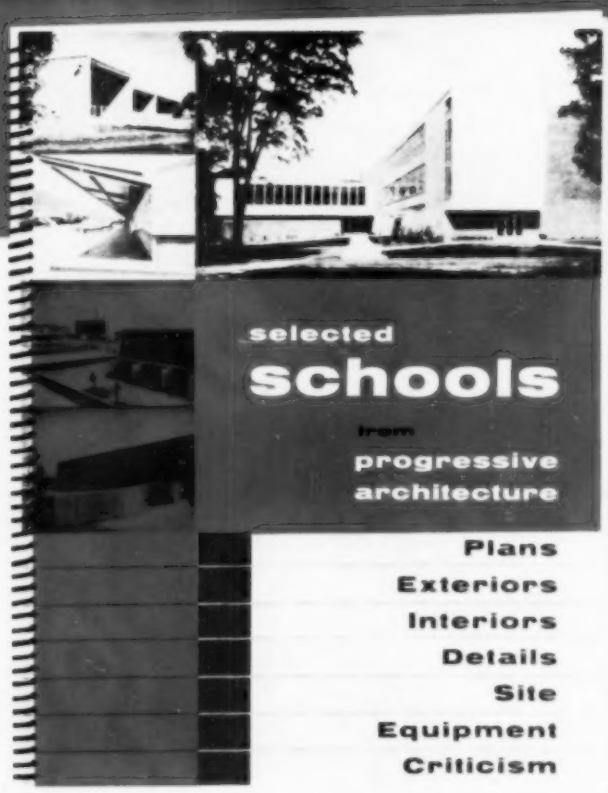

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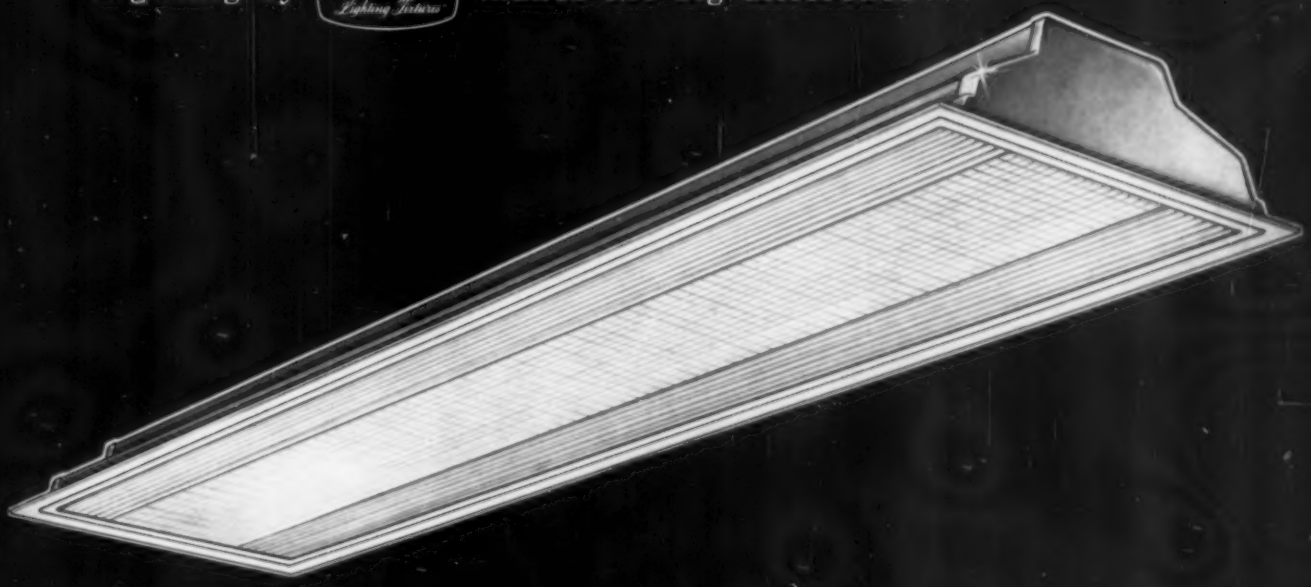

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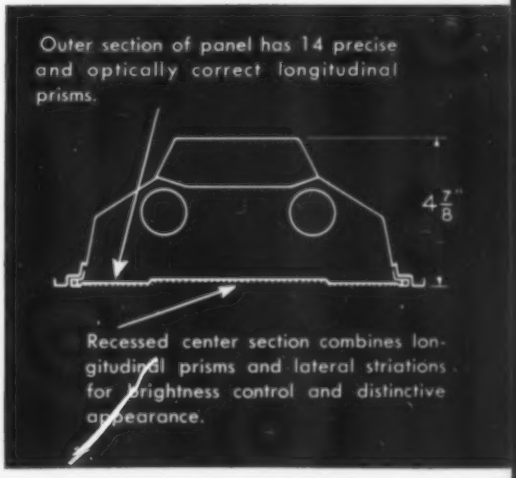
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p/a views

(Continued from page 230)

that the series will be continued.

The attention of members will be called to the series of articles in your magazine, as being of particular interest to specification writers.

LESLIE G. LARKIN, President
Detroit Chapter
The Construction Specifications Institute

•

Dear Editor: Articles of this nature covering basic materials that appear in specifications would render an invaluable aid in preparing specifications. BURK, LeBRETON & LAMANTIA
New Orleans, La.

•

Dear Editor: My personal feeling toward the article on Masonry Walls, is that this is something we have needed for some time and I congratulate PROGRESSIVE ARCHITECTURE for doing this. However, I have felt you have always been pioneers in this sort of thing.

This information was acquired by me at no little time and trouble over a period of years, and now that I see it so well presented and condensed, I feel that the more we have of these articles the more I want to know. Certainly this is one facet of architecture that has suffered from neglect, although years ago the original *Pencil Points* presented a highly informative series by an Architect's Superintendent, which dealt to a minor extent with materials.

WARREN R. RICHARDSON, Treasurer
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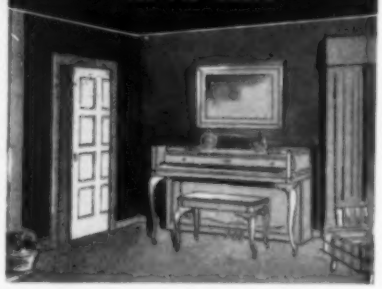

More room for living when a door slides into the wall the Kennaframe way.

New Improved Patented

(U.S. Pat. No. 2,732,919)

Installs in minutes to last a housetime!

Pivotal connection of header and jambs makes easy fit and plumb.

FEATURING REMOVABLE TRACK

- All Steel Frame
- Warp Proof
- 8 Wheels Per Door
- Prefabricated
- Fits All 2 x 4 Walls
- Adjustable 3 Ways
- Takes All Wall Materials
- Completely Packaged

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KennatracK® CORPORATION
ELKHART, INDIANA
In Canada: Toronto, Ontario

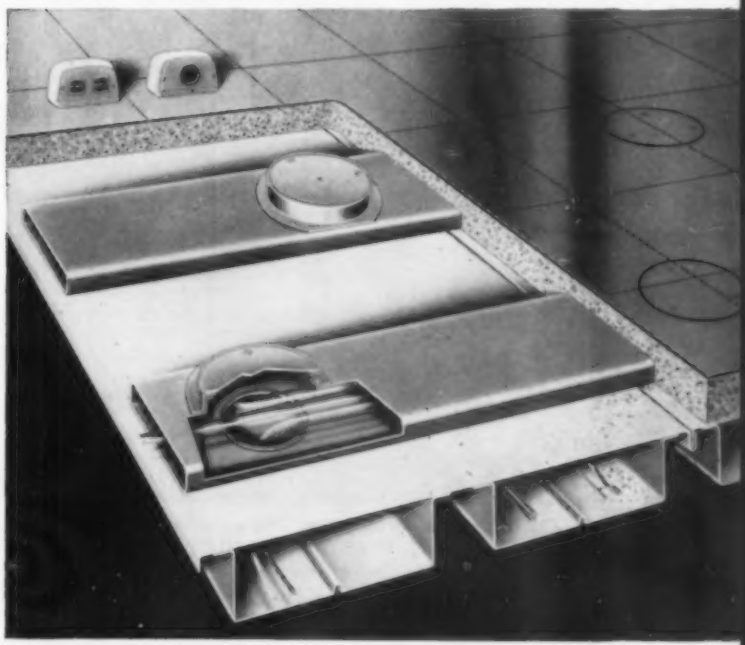
A UNIFORM STREAMLINED FITTING

for almost every service requirement

National Electric's complete line of Service Fittings for installation with underfloor electrical distribution provides uniformity of outlets in the finished installation. Every unit can be quickly installed even where the height of the fitting is restricted to less than 3" by modern desks or other free-standing equipment.

All housings are made up of bright, smooth die-cast aluminum that presents an attractive, modern appearance. Nepco Service Fittings have a shock-resistant one-piece housing that cuts installation time and simplifies replacement inventory because the housing is designed to accommodate cover plates for a wide range of services. They are designed to be interchangeable with National Electric's underfloor duct systems and with concrete floor boxes.

When your building's plan calls for cellular steel floors, make sure you include a specification for NE Service Fittings and a National Electric Header Duct System.



Used with cellular steel floor construction, National Electric Header Duct makes it possible to energize selected floor panels to accommodate any requirement for power, light, telephone, or communication.

National Electric Products

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*"DieLux" • • • *(PRESCOLITE'S trade name for precision die cast products.)*

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FACTORIES: Berkeley, California • Neshaminy (Bucks County), Pennsylvania

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Movable cabinets by Brunswick bring a new dimension to the classroom. Versatile, they meet a broad range of needs. Flexible, they can be re-arranged at will to suit constantly changing curricula, grade levels and a wide variety of teaching methods.

Here is a way to avoid the restrictions of built-in cabinets... to keep classrooms new or to bring existing classrooms up to modern standards. Write: The Brunswick-Balke-Collender Company, 623 South Wabash Avenue, Chicago 5, Illinois.

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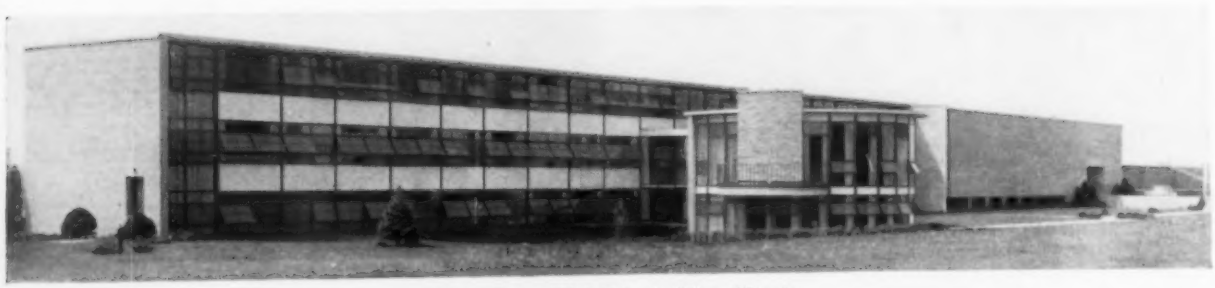
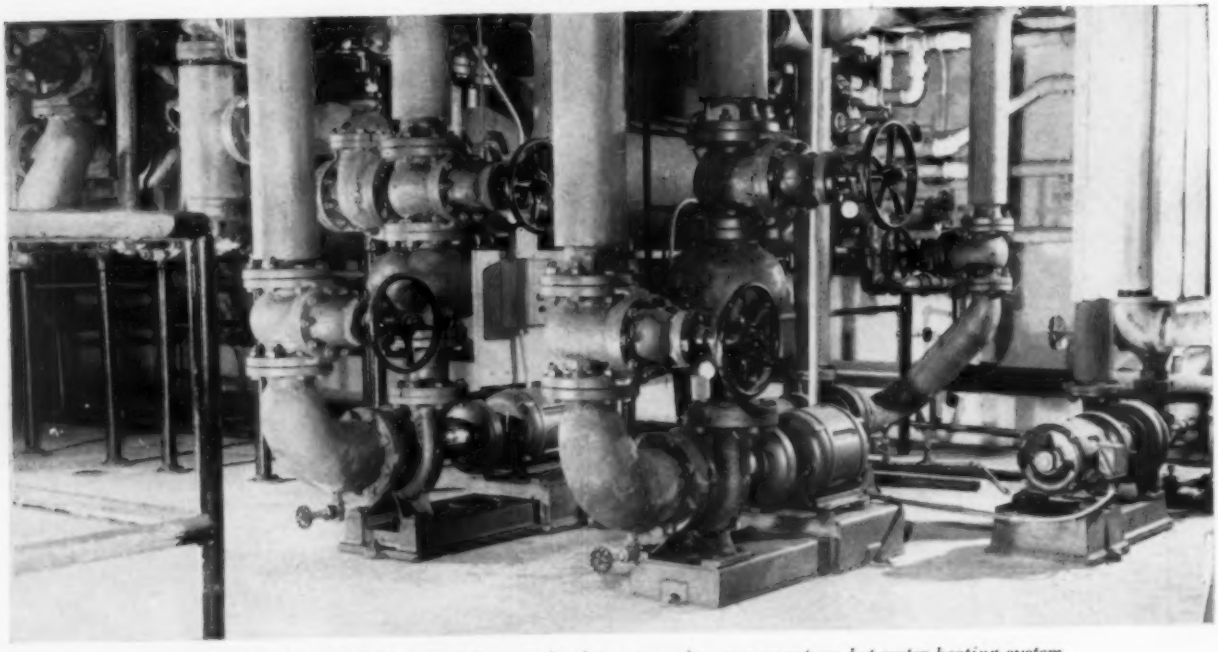
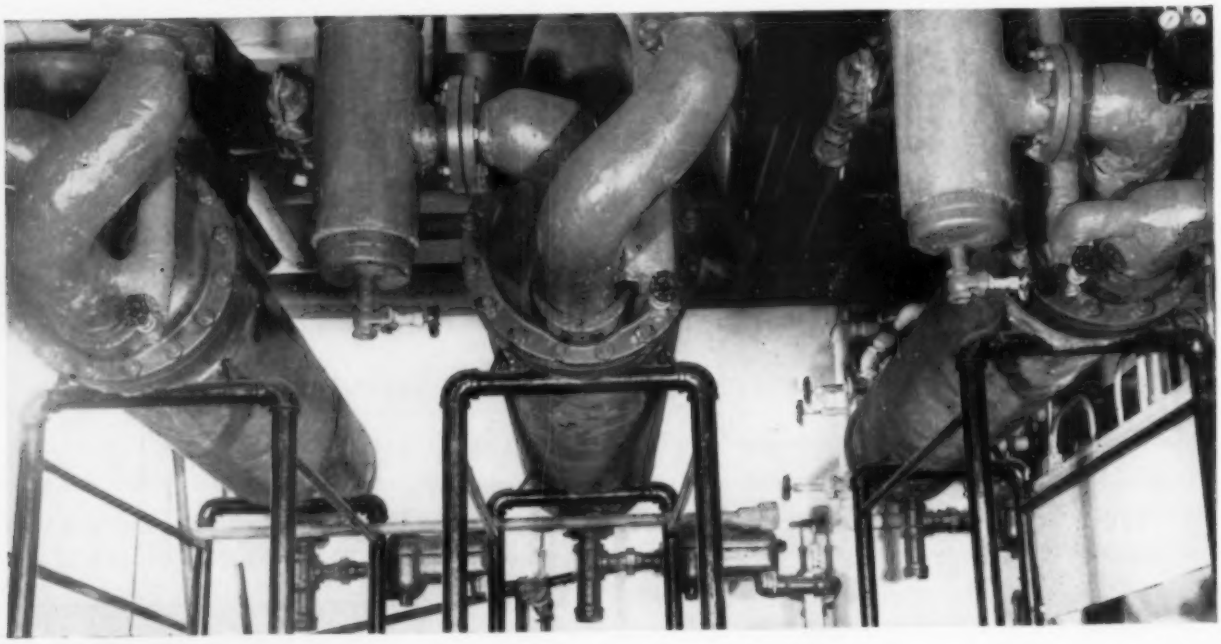


Notre Dame High School, Niles, Illinois



(above) *Battery of B&G Universal Pumps circulate a two-pipe, reverse return hot water heating system.*
(below) *Water is heated in these B&G "SU" Convertors connected to two low pressure boilers.*



Gymnasium, Notre Dame High School

B&G *Hydro-Flo*® equipment matches modern design with the best in modern heating

Owners: **Holy Cross Fathers, South Bend, Ind.**

Architects: **Belli and Belli, Chicago, Illinois**

Heating Contractor: **Wm. A. Pope, Chicago, Illinois**

Construction Engineers: **W. B. Engineering Co., Chicago, Ill.**

B&G HYDRO-FLO EQUIPMENT USED

Five Universal Pumps
Nine Booster Pumps
Three "SU" Steam Convertors
Flo-Control Valves, Relief Valves
Expansion Tanks

In this modern high school, B&G *Hydro-Flo* Forced Hot Water Heating demonstrates its versatility in satisfying a variety of heating requirements.

Classrooms are heated with hot water unit ventilators, which supply a controlled combination of radiant heat, warmed air and fresh air. The unit ventilators are suspended in a fresh air tunnel beneath the corridors. Air passes through the ventilators and under the classroom floors to windowsill grilles. Each classroom has individual thermostatic control.

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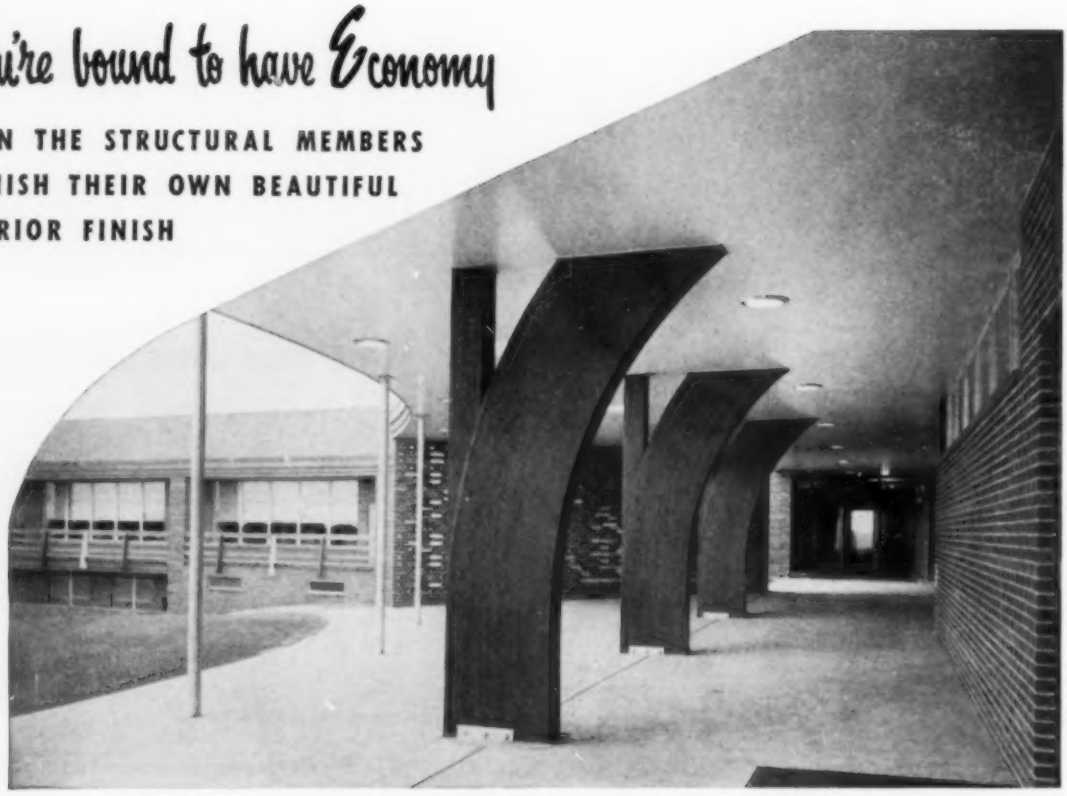

Interior or Exterior, Rilco glued laminated members add their own distinct beauty to the structure.

"We selected laminated wood arches for the combination gymnasium-auditorium in Buck's Hill School because we felt that a form of exposed ceiling would be the most economical. By using laminated wood arches and purlins we were able to apply a low cost roof with an acoustical interior finish and have a finished room broken only by the clean lines of the arches."

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Built to specifications—securely wrapped—Rilco members need no embellishment to reveal their unusual beauty.

Rilco wood laminated arches of carefully selected woods are built to be seen and enjoyed.

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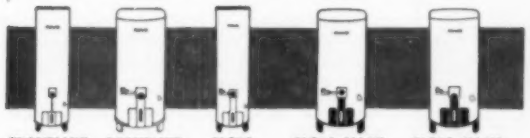

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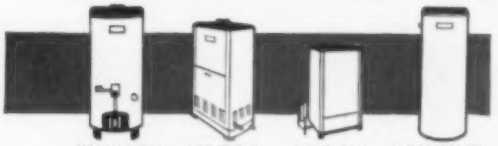

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(Continued on page 254)

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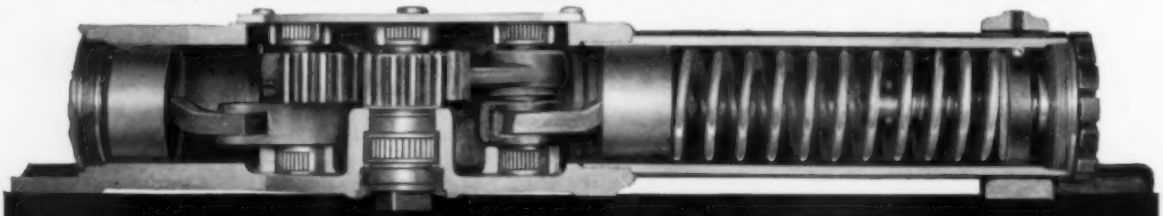
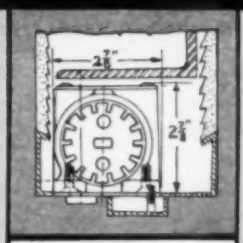
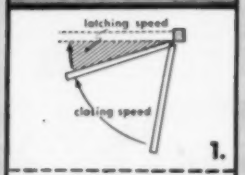
IN A TIGHT *head* JAMB?

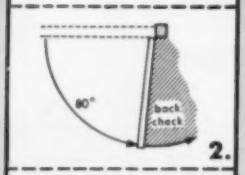


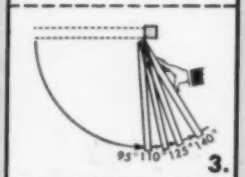
no problem with RIXSON

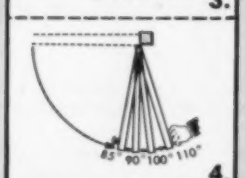
OVERHEAD concealed DOOR CLOSERS











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JOBS AND MEN

(Continued from page 250)

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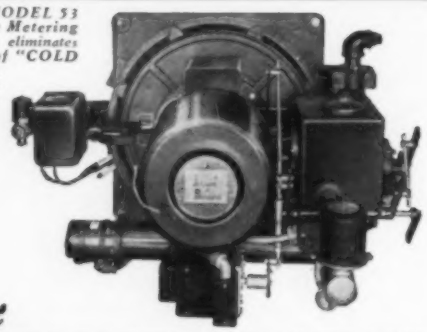

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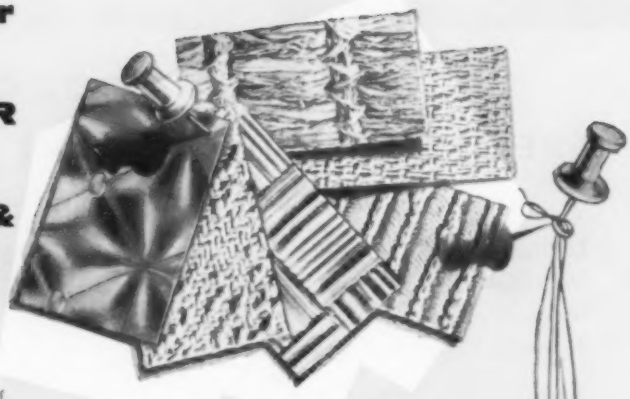

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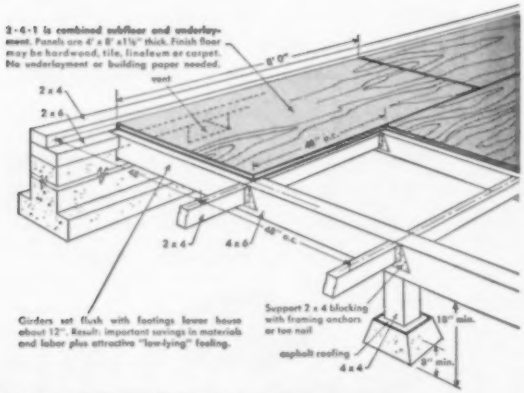
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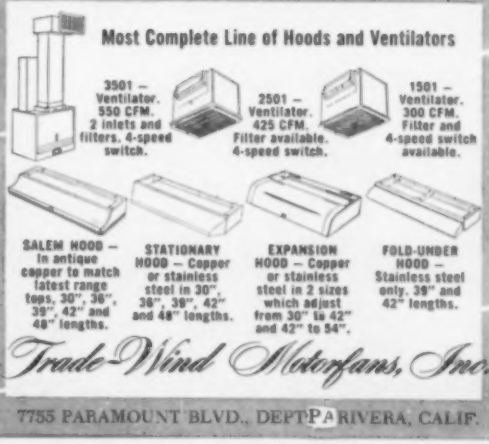
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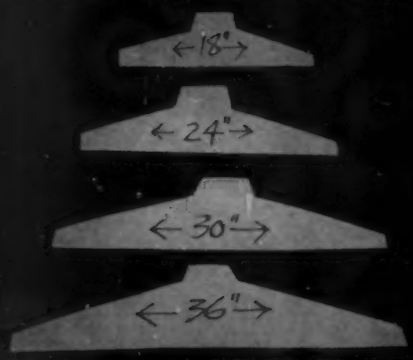

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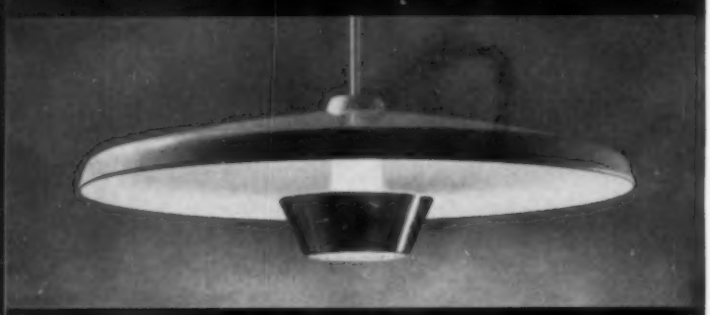

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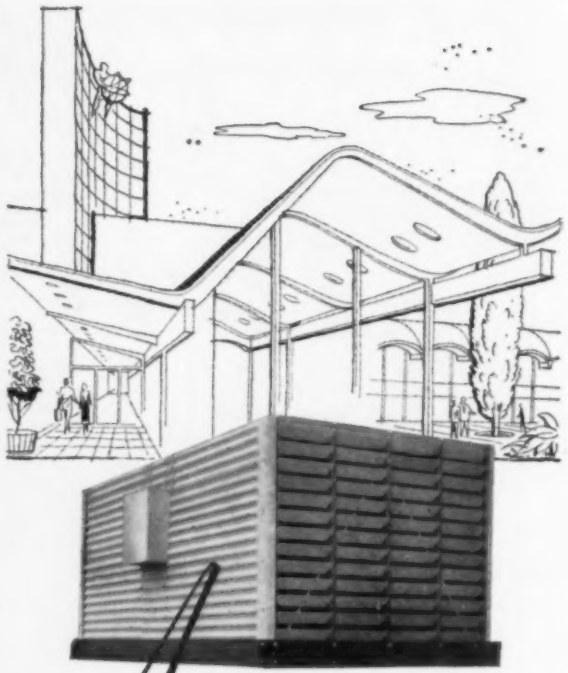

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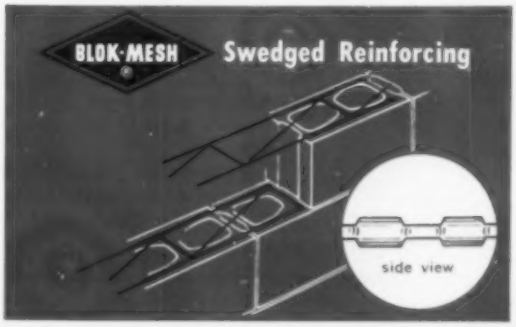

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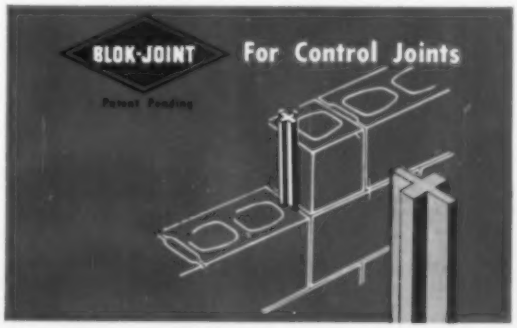

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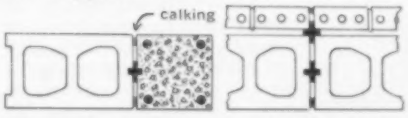

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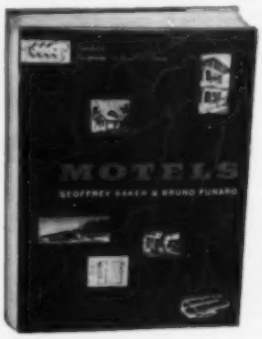

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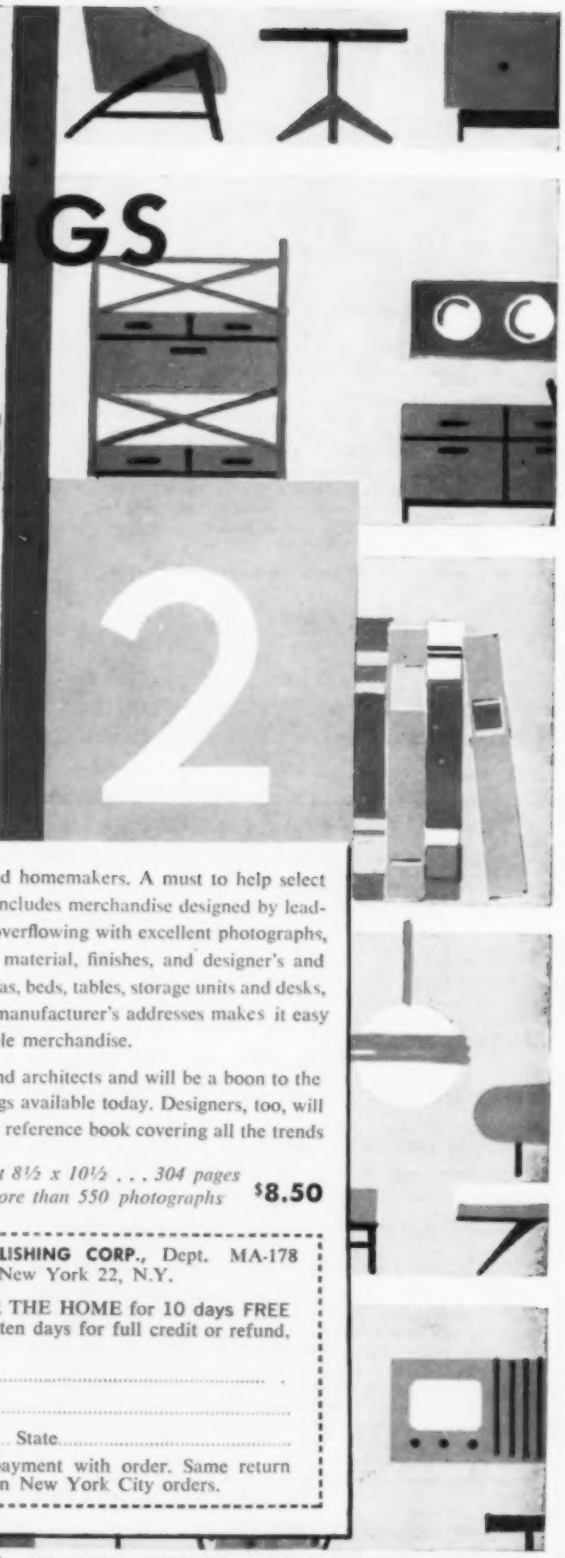

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On several trips that I have made recently—speaking, serving on architectural juries, or just plain sightseeing—I have found myself contrasting the points of view with regard to architectural practice of the great individual designers and the hard-plugging local community practitioners. Without detracting in the least from the importance of the accomplishments of those who, with often almost no home roots, lead the way in design theory and philosophy, I think it's again time to say a word for the home-town boys.

Right now, this week and next month, the average human being is going to be influenced by the work of the architect who is a leader in his community. The case histories we run occasionally to document this sort of practice are for the purpose of showing that good design can be done under these circumstances. We aren't arguing any longer, in most places, for the privilege of being allowed to design without cornices and pilasters. Now we have that privilege, by the billions of dollars. Now we have to get back into community life, into identification with the people around us. We are now in a position to explain, to develop trust and understanding, and thus to lead better in the fields in which we have the right to be leaders.

This matter of identification with the community, of assuming a position of leadership in the community, of trying to design with distinction buildings to satisfy ordinary human wants—this is not a hypothetical, do-gooder attitude at all. It has very practical implications. Where is most of the work in the offices of architects to come from in the period ahead? From the fields of housing, education, health, religion: all human social activities that spring from the *local community*. There will be work designing shops and stores—but the great advance will come in *community* shopping centers. There will be work designing industrial facilities—but the trend will be toward decentralized industry, more closely integrated with the community.

We have run an intermittent series of articles in PROGRESSIVE ARCHITECTURE for some years, which we call "The Architect and His Community." The theme of "The Architect and His Community" is, very simply, that some architects, who may have reasonably large or may have quite small practices, have influenced the physical character of their communities in a major sense. They have become important factors in the growth of those communities. They are the sort of people described by the Mayor of a Midwest U. S. town who said to me about the subject of one of these essays: "We are proud of him in this city, both as an architect and as a citizen."

We have found, in writing this series over some years, that the work these people do has vitality. It is not very likely to be either preciously self-conscious, or dully routine. Since these architects enjoy their work and their relationship with the people for whom and with whom they are working it has usually a *joie de vivre*—an element of gaiety which is so blatantly lacking in either the client-pitier or the client-toadier, the brutalist or the plan factory.

•

I wish that more graduates of more schools of architecture would scatter around the countryside. There are many areas in the United States with architectural needs and few devoted practicing architects. Undoubtedly it is good experience to work for the big firms in the big cities, under the big-name designers, but for all but a handful it is a dead end as a creative career; if we consider a career in architecture something more than life on a drafting board.

I do not, however, mean to imply that the architect's relationship to his community stops when he moves to a larger city. I don't mean to imply that he must have a general practice of a small-town nature. His "community" can very well be the whole of a great area of his country. On the other hand, it can be one local school board.

It seems to me that the satisfaction that comes from this sort of community relationship must be greater—for most of us—than the satisfaction resulting from *avant-garde* notice given to an outrageously original piece of design, or from the soundly established routine business practice. I say, for most of us, because I know that there are pure subjective artists in our profession who have no thrill from community relationships or from helping to fulfill the "basic needs of a free people" of which Walter Reuther spoke at the last P/A Awards dinner. And I know that there are those whose greatest satisfaction comes from being known as good reliable fulfillers of "what the client wants," with no worry about the financial security of the practice.

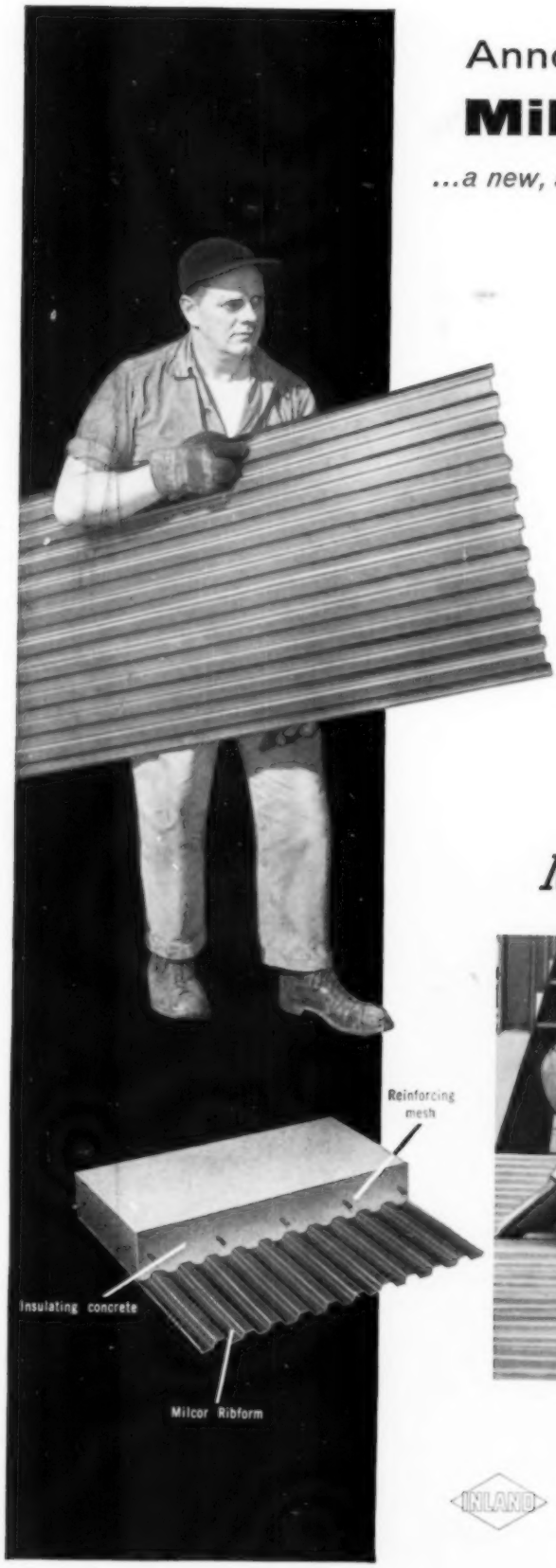
However, I do not think that a practice related to the community precludes either of these other satisfactions. The architects whom I think of in this regard are not starving to death, I assure you. And out of this sort of community-rooted architecture comes the occasional opportunity to do the finest piece of individual design of which one is capable.

•

I have a feeling that we are beginning to see a departure from both precocity and dullness. Certainly many of the architectural problems that must be solved today—problems caused by our increasing concern with social phenomena such as improved health in some areas, worsened emotional and physical well-being in others, broadened educational opportunities, increasing median age of the populace, longer hours of leisure and more concentrated periods of work, greater reliance on telecommunications and automatic processes, and what seems to be an increasing interest in the arts and cultures—these are design and planning problems which cannot be solved well by an arbitrary decision to follow in a style pattern. Nor are they capable of solution by the factory-production methods of the routine production offices. They need study, and sympathetic understanding, and a close relationship with the people who are going to use the buildings.

They seem to need a new sort of architect, who is emerging in our time. A man who is no longer beating dead horses, but learning to ride very live ones. A man who finally, after many decades of eclectic withdrawal, of revolutionary isolation, of self-conscious self-adulation, is now again a cultural, professional leader in a community of which he is an integral part.

Thomas H. Creighton



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